DOCUMENT RESUME

ED 090 830 HE 005 424

TITLE	Master Plan for Higher Education in Connecticut 1974-1979.
INSTITUTION	Connecticut Commission for Higher Education, Hartford.
PUB DATE	Jan 74
NOTE	227p.
EDRS PRICE	MF-$0.75 HC-$11.40 PLUS POSTAGE
DESCRIPTORS	College Faculty; *Educational Administration; Educational Finance; *Educational Objectives; Equal Education; *Higher Education; *Master Plans; *Statewide Planning; Transfer Students

ABSTRACT

This document presents the 5-year, 1974-1979 master plan for higher education in Connecticut. Chapters cover Goals, Current Climate, Organization and Structure, Enrollment, Facilities, Programs, Nontraditional Approaches and the External Degree, Transfer, Equal Opportunity, Finance, Statewide Information System (I/S), Topics for Future Study, and an Agenda for Action. References and an extensive bibliography are included. (MJM)

ED 090830

MASTER PLAN FOR HIGHER EDUCATION IN CONNECTICUT 1974-1979

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STATE OF CONNECTICUT

COMMISSION FOR HIGHER EDUCATION

P.O. Box 1320 - Hartford, Connecticut 06101

AREA CODE 203 566-3913

January 1974

TO: The Governor of Connecticut
The Connecticut State Senate
The Connecticut State House of Representatives

FROM: Donald H. McGannon

It is a pleasure and an honor to transmit on behalf of the Commission for Higher Education, the *Master Plan for Higher Education in Connecticut*, prepared pursuant to the provisions of Public Act 72-94 and in conjunction with the constituent units of higher education.

This first Master Plan for higher education to be mandated in Connecticut, covering the five-year period 1974-1979, is to be updated biennially. Representatives of public and private higher education have cooperated fully in the development of this document.

The Commission for Higher Education is grateful to all who have participated in the development of Connecticut's first *Master Plan for Higher Education*. Scores of meetings throughout the state, reports developed by hundreds of individuals inside and outside of academic life, and the expression of interest by thousands of individuals in the state enriched the Plan. Your own participation in the early stages of the study and the interest of many state agencies have been most gratifying.

To assure an optimal return on Connecticut's investment in higher education, the state must have clearly defined goals, improved procedures, new relationships, vigorous activities and programs supported by the collection and analysis of better data. The *Master Plan* offers a blueprint for realizing such features.

The planning process itself has been extremely helpful in alerting Connecticut citizens to the problems facing higher education and in the amelioration of some of the problems identified during the development of the Plan.

(more)

Connecticut has the opportunity and the means to maintain quality in its postsecondary education and to insure equality of opportunity for all those who can benefit from participation.

The Commission for Higher Education and the institutions of higher education in Connecticut are prepared to provide you and the members of the General Assembly with all possible assistance in implementing the opportunities for our state's citizens that are implicit in this plan.

We would be pleased to meet with you, at any time, to discuss the plan, its conclusions and, particularly, the recommendations being made for the first two of the five years.

Thank you very much for your continued interest and assistance.

Respectfully sumbitted,

Donald H. McGannon

Donald H. McGannon, Chairman

DHMcG:jc

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Hartford, Connecticut 06101

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PREFACE

A state Master Plan for higher education is the framework within which state government decisions about growth and support of higher education can be made on a clearly defined, rational, and efficient basis. Without a master plan, decisions will reflect uncertain purposes, haphazard and partial responses to various pressures and ineffective utilization of available resources.

John D. Millett [1]

Higher education in Connecticut dates from October 1701 when the Collegiate School, the forerunner of Yale College, was chartered by the colonial General Assembly and located in Saybrook.

In 1823 a second collegiate institution, Washington College--subsequently named Trinity College--was granted a charter. Thus Connecticut, like its neighboring states in New England, began a strong tradition of "private" higher education. Many nominally private institutions, however, received substantial public support during their early years. By 1973, Connecticut's independent colleges and universities numbered 25.

The origins of the current public system may be traced to the establishment in 1849 of a normal school in New Britain. This normal school and three others established between 1850 and 1903 evolved into the present state colleges:

Central Connecticut State College in New Britain
Eastern Connecticut State College in Willimantic
Southern Connecticut State College in New Haven
Western Connecticut State College in Danbury

In 1881 two brothers from Mansfield, Augustus and Charles Storrs, contributed 170 acres of land and $6,000 to establish the Storrs Agricultural School. From the original two-year courses in agriculture, the school has grown to the present University of Connecticut with its 17 schools and colleges including, most recently, the medical and dental schools. The University also operates five two-year branches at Groton, Hartford, Stamford, Torrington and Waterbury.

The first of the technical colleges was organized in 1946 in Hartford as the Connecticut Engineering Institute. Today there are four state technical colleges located in Hartford, Norwalk, Norwich and Waterbury.

Municipal interest and efforts led to the establishment of the first two-year community colleges in Norwalk in 1961, in Manchester in 1963, and in Winsted in 1965. Connecticut now has 12 regional community colleges:

Asnuntuck Community College in Enfield (1972)
Greater Hartford Community College in Hartford (1967)
Housatonic Community College in Bridgeport (1966)
Manchester Community College in Manchester (1963)
Mattatuck Community College in Waterbury (1967)
Middlesex Community College in Middletown (1966)
Mohegan Community College in Norwich (1961)
Northwestern Connecticut Community College in Winsted (1965)
Norwalk Community College in Norwalk (1961)
Quinebaug Valley Community College in Danielson (1971)
South Central Community College in New Haven (1968)
Tunxis Community College in Farmington (1970)

Connecticut's current system of higher education was established in 1965. Public Act 330 which defined the system, after a study by the United States Office of Education had recommended the consolidation of all public higher education under a single board of regents, was a compromise measure. The compromise--a coordinating agency

and three governing boards for the University of Connecticut, the state colleges and the regional community colleges--was patterned on successful models existing around the country. In 1967 the board of trustees for technical colleges petitioned to be added to the system, and this was approved by the General Assembly. In 1973 the General Assembly authorized establishment of a fifth operating unit, the Board for State Academic Awards.

Today 27 states have coordinating boards; operational control remains with each institution's governing board. The six constituent units of the public system now are: the Commission for Higher Education, a coordinating and planning agency, and five operating units - the University of Connecticut, the state colleges, the state technical colleges, the regional community colleges, and the State Board for Academic Awards.

In the private sector, each of the 25 independent institutions--five of which are two-year colleges--is governed by a separate board. These institutions have formed a voluntary association, the Connecticut Conference of Independent Colleges. Also operating independently are 28 hospital schools and 60 proprietary schools, many of which are postsecondary institutions. The proprietary schools are represented by the Connecticut Association of Private Schools.

Connecticut's diverse needs for postsecondary education are well served by the existing combination of institutions, independent and public. But needs change, often rapidly. So does the socio-economic climate in which educational institutions must operate. To remain viable, they must develop their ability to adapt and to plan ahead not only for the next year but for the years after that.

Recognizing this necessity for Connecticut's system of higher education to remain flexible and to anticipate future needs if it is to be prepared to respond to them, the Governor and General Assembly--through Public Act No. 194, 1972--authorized the Commission for Higher Education "in cooperation with the other constituent units" and with consideration for "the long-range plans of the independent colleges" to prepare a Master Plan for five years and to update the Plan biennially.

While planning and self-study are familiar activities within Connecticut's educational community, the concept of planning on a statewide basis with all post-secondary institutions involved is relatively new. Prior to 1965 when the Commission for Higher Education was established to coordinate planning for the public institutions, the various units had been operating independently with little knowledge of each other's planning and even less of the plans of the independent colleges.

Fortunately this loosely organized network of colleges and universities was effective during a period of growth and expansion. But higher education in the '70's faces a readjustment period. In Connecticut, as elsewhere in the nation, the educational community is under fire for rising costs, irrelevant programs, a lack of accountability and other seeming inefficiencies.

Partly in response to public demands for greater accountability, the Commission for Higher Education and the constituent units have intensified their evaluative and planning activities in recent years. The most comprehensive effort to date occurred in 1970 when four citizen Task Forces studied and made recommendations in four major areas: (1) Needs: Socio-Economic, Manpower, Regional; (2) Function, Scope and Structure of Higher Education; (3) Financing Higher Education and (4) Qualitative and Quantitative Performance and Achievement in Higher Education.

Unlike previous studies, the Master Plan is more than a report to the Governor and General Assembly. As adopted by the Commission, it will provide--within the present statutes--a basis for the Commission's relationships to the operating units and for additional legislative proposals affecting higher education.

At the Commission's invitation, three types of committee, involving more than 300 persons, provided the initial input for the Master Plan. Members of the eight Resource Groups, the Management/Policy Group and the

Review and Evaluation Group are listed in the Appendix, as are the names of persons who submitted written statements.

Connecticut's first Master Plan, presented on the following pages, is designed to continue those aspects of higher education that will serve present and future needs, to improve where improvement seems necessary, to change where change appears desirable, and while seeking to achieve these goals, to attempt also to manage the state's educational resources for the best possible service to its economy and its citizens.

I. GOALS

II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Planned evolution, not revolution*
- *Opportunities for all who qualify*
- *Protection of essential freedoms*
- *Flexibility to keep pace with change*
- *High standards of quality*
- *Effective use of resources*
- *Solutions to society's problems*

I. GOALS FOR THE SYSTEM

There are those who will say that Connecticut's first Master Plan is too ambitious. Others will say that it does not go far enough. Both will be right.

The Plan reaches for the ideal--a balanced system of higher education that will fulfill every citizen's need for education beyond high school. It recommends realistic steps that can be taken now toward that ultimate goal.

If these first seem limited in view of the goal, it is because planners know that people and institutions change slowly. Connecticut's Plan calls for evolution, not revolution - a planned evolution that will attempt to keep pace with the rapid changes in technology, in the economy and in society in which the state and its institutions exist.

The Plan will be revised and updated every two years. This will allow the state to identify new areas of concern, to measure progress on early goals and evaluate their continuing validity, and to revise the goals and the timetable for their achievement when events make this advisable. The Plan will also be of value to the Commission for Higher Education and the institutions in making budget recommendations and requests in the years ahead.

GOALS

The six long-range goals for both public and independent institutions, as stated in 1970 by the Commission for Higher Education, are similar to those stated by the Carnegie Commission in 1973. Connecticut's goals are:

1) *To insure that no student in Connecticut who is qualified or qualifiable and who seeks higher education be denied the opportunity for such education because of his social, ethnic or economic situation*

2) *To protect essential freedoms in the institutions of education*

3) *To provide opportunities for a liberal education and for preparing to*

serve the state's economic, cultural and educational development

4) *To develop the most effective use of available resources in public and independent institutions of higher education and thus obtain the greatest return on the public investment*

5) *To maintain quality standards which will insure a position of national leadership for Connecticut's institutions of higher learning*

6) *To assist in bringing the resources of higher education to bear upon the solution or abatement of society's problems*

Considerable progress has been made toward achieving these goals. There is a two or four-year public college within one-half hour's commuting time of all the state's residents. The number of existing institutions is adequate for those who seek to enroll.

All the diverse needs and personal aspirations of individual citizens, however, are not being met. Examples of the unserved are the high school graduates who do not apply to college for economic reasons, the young people who elect to pursue their education out of state because they fail to find what they want in Connecticut, the Black and Puerto Rican populations of the state which are inadequately represented on our campuses and the adults who do not register because they cannot get the courses they want at convenient times and locations.

In community involvement, too, there is underachievement. In many locations, institutions should be working more closely with other agencies in the community or providing services which no other organization is providing and for which the college has a unique capability.

Two changes in Connecticut's 1970 goals are immediately desirable: an amendment to the first and addition of a seventh goal for the system.

The first goal must be expanded to specify that no person shall be denied the opportunity for higher education because of age or sex. This goal now reads:

1) *To insure that no student in Connecticut who is qualified or qualifiable and who seeks higher education be denied the opportunity for such education because of age, sex, or social, ethnic or economic situation*

An additional goal should be:

7) *To foster flexibility in policies and institutions that will allow the state's*

system of higher education to respond to changes in the economy, in society, in technology and in student interest.

What direction to take and how to move forward to accomplish these over-all goals are practical questions. Answers inevitably reflect the trends--social, economic, demographic and technological--affecting higher education everywhere.

Connecticut's first Master Plan recommends specific actions that should be taken if the state's system of higher education is to improve its effectiveness. Topics discussed include the system's Organization and Structure, Enrollment, Facilities, Programs, Improvement of Opportunity, Transfer, Equal Opportunity, Finance and the computerized Information System (I/S) whose development the Commission for Higher Education approved in 1973.

I. Goals

II. CURRENT CLIMATE

III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Added emphasis on human rights*
- *Nationwide increase in part-time students*
- *Greater representation for minorities*
- *Equal treatment for women*
- *Use of instructional technology*
- *Closer cooperation among institutions*
- *New role for proprietary schools*
- *Trends in the economy*

II. CURRENT CLIMATE

Higher education in Connecticut--and in most of the United States--is walking a fine line between crisis and opportunity. Can the colleges and universities that grew during the '50's and '60's to be the pride of the nation adapt to meet the emerging needs of the '70's?

Making tough decisions about education and carrying them out is not new to the state's lawmakers nor its educators. Both have been doing it since the beginning of the 18th century. They and their colleagues throughout the United States accommodated the veterans of two world wars and prepared them for useful careers; they enrolled increasing numbers of students, many of whom were the first in their families to attend college and be exposed to the excitement of ideas, philosophy, sciences, the arts and humanities; they engaged in research and public service activities which benefitted many.

The greatest activity came in the 1960's. Enrollments in public institutions shot up; so did expenditures. The General Assembly authorized the establishment of the state's 12 regional community colleges and the appointment of a 16-member Commission for Higher Education to coordinate the activities of the 21 public institutions in the state.

During this same decade, as higher education moved into the spotlight nationally and locally, public disenchantment with its performance grew. At first the cause of the public displeasure appeared to be radical students and campus disturbances.

Clearly, student unrest contributed to the public's disillusionment, but critical eyes, focused on the campus by student demonstrations, discovered additional causes for concern. Increasing costs, complaints about the irrelevancy of the curriculum, the consultant-professor, and many other issues were debated. Public displeasure was translated into demands by elected officials for greater accountability by higher education to those who support the enterprise.

Before these issues could be resolved completely, other pressures arose to test the

strength and adaptability of traditional institutions of higher education to serve contemporary societal needs.

CHALLENGES OF THE SEVENTIES

Significant trends which will affect higher education in the 1970's have been pointed out by the Carnegie Commission, the U. S. Office of Education, and many other organizations and individuals concerned with economic and social influences on higher education. Among the pressures to which colleges and universities must respond are the following:

- *A dwindling supply of 18-to-24-year olds.* The "college age" population will peak by 1978 and decrease after that date. Connecticut's public institutions began to experience a slowdown in the growth of full-time undergraduate enrollments in 1971.

- *An increase in part-time students, many of them adults.* The U. S. may be headed for a boom in continuing education which will permit persons of all ages to update their knowledge and skills periodically, retrain for second careers or simply continue education that has been interrupted. This "new clientele" attending Connecticut's colleges is expected to reach 11,000 by 1978.

- *The demand by minorities for greater representation on campus both in the student body and on faculty and staff.* Although gains have been made since the Civil Rights Act of 1964, Connecticut's Black and Spanish-speaking populations are still under-represented. This is particularly apparent in the urban centers of Bridgeport, Hartford, New Haven and Stamford, especially in the 18-to-24-year-old age group.

- *The move by women to gain equal treatment in admissions and in hiring, pay and promotion.* Women are supported by the Federal Amendments of 1972, which require affirmative action plans, including numerical goals and timetables, of all institutions with federal contracts of $50,000 or more and 50 or more employees, and by the Equal Pay Act which was extended in 1972 to cover professional personnel at educational institutions.

- *Increasing use of informational technology, particularly for off-campus instruction.* "By the year 2000," predicts the Carnegie Commission on Higher Education, "a significant proportion" of instruction on campus may be carried on through informational technology--perhaps 10 to 20 percent--and in off-campus instruction at a much higher level, perhaps a dominant 80 percent or more." Technologies with the greatest prospects are cable television, video cassettes, computer-assisted instruction, and learning materials to be

used with audiovisual units in independent study programs.

■ *Growing interest in non-traditional means of acquiring credit towards a college degree.* This means, besides the use of technology as an instructional tool, tne development of more sophisticated techniques for awarding credit for learning that has taken place outside the classroom, including the granting of academic work experience. Connecticut's Board for State Academic Awards, appointed in 1973, is responsible under P.A. 73-656 for the development of external degree programs and credit by exam.

■ *Widening acceptance of the concept that each state is responsible for providing universal access to its total system of higher education,* although not necessarily to each of its institutions.

Connecticut is in the forefront in providing geographical access and it is rapidly improving academic access through open enrollment at the two-year community colleges and the University. The state still has a long way to go, however, in providing sufficient student financial aid for all who want to continue education beyond high school and for motivating potential students whose expectations do not match their capabilities. A Commission survey of June 1973 graduates from Connecticut high schools indicates that at least 2,000 were not planning to attend a college or university because of financial problems.

■ *Continuation of the "funding plateau."* Dollar expenditures for higher education will continue to rise, although at a much slower pace than during the '60's. However, the proportion of state budgets going to higher education will be no greater in 1980 than now, predicts the University of California's Lyman A. Glenny. The exception may be states where support is far below capacity to pay.

■ *A tendency to require students to pay a larger share of the cost of education through increased and/or deferred tuition.* This trend may be slowing, at least in the public sector. Nationally, state colleges and universities increased tuition and required fees for resident students only 2.5 percent in the fall of 1972, dramatically below the 8 percent gain of the previous year. Student charges vary by geographic region, with median rates generally highest in New England and the mid-Atlantic states.

■ *Gradually decreasing expenditures for facilities.* Stabilized enrollments in on-campus programs and the increasing usage of alternate means of delivering education will lessen the need for additional buildings.

Capital expenditures can be concentrated on providing adequate facilities for existing institutions including the remodeling of existing buildings.

■ *Closer cooperation between institutions of all types, public and private, often on a regional basis.* The objectives are to use resources more effectively, to diversify programs without increasing costs prohibitively, and in some cases, to start new ventures which none of the institutions could undertake alone. Efforts to date vary from informal cooperation to legally constituted consortia, some of which cross state boundaries.

Connecticut, for example, is a member of the New England Board of Higher Education, and the University of Connecticut in 1973 adopted the "Durham Declaration," an agreement among New England's six state universities to strengthen and expand academic cooperation in this region.

■ *Enlarging of the role of proprietary schools in post-secondary education.* Schools offering specialized training are enrolling an increasing percentage of students, some of whom may also attend the state's colleges for part of their education.

■ *Increasing emphasis on career or occupational education.* In the past ten years, professional and technical positions increased in total number and in rate of growth faster than any other major grouping. This trend will continue during the Seventies, in the opinion of David Pinsky, professor of labor education at the University of Connecticut, while jobs requiring semi-skilled or unskilled labor will continue to decline. The largest rise will be in service jobs related to health, recreation, travel and leisure, insurance, finance, trade and repair, fields requiring specialized postsecondary training. This represents a major shift in Connecticut's economy, which has been predominantly based on manufacturing, and may require a comparable adjustment for some of the state's educational institutions.

■ *Renewed appreciation of the humanistic values of higher education.* In a technological era, concern for improving the quality of life and for sustaining the dignity and worth of man is legitimate. Helping individuals to realize these values is a vital function of higher education. Through the arts and sciences, through the study of philosophy and literature, students will enter the world of ideas where they can acquire the self-understanding, the perspective and reasoning power needed to achieve a meaningful life in a highly complex world. Not only will their lives be enriched but society

as a whole will benefit.

THE STATE'S ECONOMY

While the percentage of the labor force in manufacturing has declined in the last 20 years it is still more than 30 percent, by far the largest category of employment, and Connecticut is still among the top states in manufacturing. In addition to employment, manufacturing--centered in aircraft, machinery, submarines and other products involving precision metalworking and requiring a high degree of skill, training and technology--contributes greatly to total income.

In terms of per capita and per family income, Connecticut leads the nation. In 1970, its per capita income was $4,807, per family income was $13,024 and its gross state product--the value of all goods and services produced in the state in one year--was approximately $18 billion.

Of special note are two other major contributors to Connecticut income--the more than 30,000 New York commuters, who reside largely in Fairfield County, and the insurance industry, primarily Hartford based.

Areas of employment, besides insurance, that are expected to show large increases in this decade are services, trade and government. Finance, real estate, communications and utilities are expected to show moderate increases. Manufacturing, construction and public transportation are likely to remain at about the same level. Employment in agriculture is expected to continue to decline.

In the 1970's and 1980's the population of New England is expected to increase at a rate higher than the national average, with the fastest growth among young adults. Accordingly, Connecticut's labor force will reach more than 1.6 million in 1980. By then the non-white portion of the labor force will number 116,000 or seven percent of the total, up from four percent in 1950 and six percent in 1970.

The opportunity for prosperity--a high level of employment and high income--exists. To take advantage of it will require the support of all segments of the Connecticut community--especially government, industry and education--for the following measures:

1) *Invest in a skilled, educated and adaptable labor force;*

2) *Afford opportunities for adults to update and upgrade their skills;*

3) *Provide a climate that is favorable to research and development;*

4) *Insure educational and employment opportunities that will improve the distribution of income among all the people of the state.*

I. Goals
II. Current Climate

III. ORGANIZATION AND STRUCTURE

IV. Enrollment
V. Facilities
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IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Basic structure to be retained*
- *Missions of constituent units to be updated*
- *Two-year moratorium on new institutions*
- *Improvement through performance evaluation*
- *Increased regional planning*
- *New board for technical colleges*
- *Greater support for regional community colleges*

III. ORGANIZATION AND STRUCTURE

The people of Connecticut are deeply committed to meeting the challenges of providing quality higher education. The state constitution confirms this. Article Eighth, Section 2, says:

> *The state shall maintain a system of higher education, including the University of Connecticut, which shall be dedicated to excellence in higher education.*

Prior to the statutory definition of the present system of higher education in 1965 there was limited coordination of planning among the governing agencies of the diverse institutions. The governing boards for public institutions were the University of Connecticut trustees and the State Department of Education. While a liaison committee was established between the two, each board made its own case for support to the General Assembly and the executive branch of the government. The independent institutions were governed by their own boards of trustees, as at present, and funded privately.

Until the boom in enrollment of the late '50's and early '60's, the independent institutions dominated higher education. In 1956, only 40.3 percent of the total enrollment was in the public sector. Between 1956 and 1972, however, total enrollment in the state more than tripled, growing from 41,542 to 132,119, and by 1972, the public sector accommodated 61.3 percent (80,948) of the total enrollment in the state.

Costs rose accordingly. The quantity, quality and diversity of postsecondary institutions in Connecticut are tangible evidence of the support, both public and private, that higher education has received.

By 1963 the legislature, noting the growth in size and cost, saw the need for planning. A committee of citizens was named to study and make recommendations concerning higher education. With the assistance of consultants from the United States Office of Education, the committee in 1964 issued its report recommending the establishment of a state system of higher education. Specifically, the report

suggested a single board of regents to govern and administer all existing and future public postsecondary institutions.

PASSAGE OF P.A. 330 IN 1965

Connecticut's legislature, however, opted for a coordinating agency and three governing boards for the University of Connecticut, the state colleges, and the regional community colleges.

Under P.A. 330, the University of Connecticut retained its trustees as the governing board; the four state colleges were separated from the State Board of Education to be governed by a newly created board of trustees, and a board of trustees for community colleges was appointed to govern the existing and additional two-year colleges. The municipalities which had established two-year colleges were relieved of the burden of their support.

The technical institutes remained under the control of the State Board of Education until 1967, at which time their name was changed to technical colleges and they became part of the system of higher education. The members of the governing board, however, are also the members of the State Board of Education.

In 1973, a fifth operating board--the Board for State Academic Awards--with responsibility for awarding external degrees and credit by examination, was established by the General Assembly. The five governing boards, as constituent units, and the Commission for Higher Education, as a planning and coordinating body, make up the total state system of higher education.

PUBLIC ACT 72-194

By the 1970's higher education across the nation, regardless of the form of governance, was being scrutinized more closely than ever before. Financial problems were emerging and the public was expressing increasing concern with respect to events occuring on campuses.

Connecticut could have adopted a "wait and see" attitude until more of the pressures and trends manifested themselves within the state. This attitude, however, would have been inconsistent with the philosophy--expressed in the legislation establishing the Commission for Higher Education--that planning is the efficient way to prepare for and to influence the future.

In 1972, therefore, the General Assembly passed Public Act 194 (amended by P.A. 73-440) directing the Commission, in cooperation with the constituent units, to develop a five-year Master Plan for Higher Education in Connecticut.

One of several subjects examined in the course of developing the Plan is the organization and structure of the system.

THE STRUCTURE'S EFFECTIVENESS

Key questions addressed were: Is the framework within which Connecticut's institutions operate helping or hampering them in achieving and maintaining excellence in higher education? Should the organization and structure be changed and, if so, how?

A number of options were considered. One was to rely upon free and open competition between existing or new institutions to meet the higher education needs of the state, giving each institution virtually complete autonomy to compete with every other institution for students and resources. Essentially this would be a return to the early conditions in Connecticut. It could lead some institutions to attempt to be all things to all students, resulting in unnecessary duplication, excessive cost, waste of resources and mediocrity.

Another possibility would be to centralize the administration of all state-supported higher education under one governing board. The report of The Governor's Commission on Services and Expenditures (Etherington Commission) endorsed centralization with a marked increase in the authority of the Commission for Higher Education.

Experiences with highly centralized administration in other states, however, have not resulted in the hoped-for economies or efficiency. Some leading students of educational planning point out:

> *In both industry and higher education, structures of the coordinating type have proven more flexible, more adaptive, and more effective in planning than pyramidal hierarchies. Thus, no evidence we have acquired shows that single boards will in fact meet the expectations . . . on the contrary, we believe that the shift away from the coordinating board would be a major policy error based on outmoded assumptions about organization and decision processes.*[3]

Certainly total centralization of authority for higher education is not in line with Connecticut's tradition of institutional independence and indications from residents of the state at this time appear unfavorable to such a move.

A third option is for the Commission for Higher Education, within the scope of its present mandate, to intensify its planning and coordination functions in order to enable institutions of higher education to respond more effec-

tively and collectively to the needs of the state, while retaining their individuality, freedom and accountability for operations according to the decisions of the separate governing boards. This approach was favored by the majority of the state's citizens who participated in the discussions and deliberations leading to the formulation of this Master Plan.

None of the resource groups which studied the current status of higher education in Connecticut recommended a major change in the present governance structure. In general, they agreed with the conclusion of a task force which reported to the Commission in 1970:

> *The present structure of the state system of higher education, when compared with the systems in other states, appears to provide their essential strengths and to avoid their major weaknesses.*[4]

This conclusion is accompanied by a widespread belief that coordination must be strengthened to insure that the public institutions function as a system; that their goals and functions mesh with those of the independent sector, thus avoiding unnecessary duplication, and that serious gaps in higher education not develop.

▶ ACTION RECOMMENDED

1 *That the existing structure for public higher education in Connecticut, consisting of governing boards and a coordinating commission, be retained*

IMPORTANCE OF LEADERSHIP

The effectiveness of any system of governance depends to a large part on the quality of its leadership. For higher education, the membership of the coordinating commission and boards of trustees is of critical importance.

To maintain the quality of Connecticut's boards, it is important that appointees possess the competencies and attributes which will contribute to each board's capability. Each member considers problems in relation to Connecticut's goals for higher education as judged from his background of experience and training. In a total board, a variety of experience and training is essential. One of the primary purposes of coordinating and governing boards is to represent the total public interest, so it is important that there be understanding of the needs of the various segments of that public.

▶ ACTIONS RECOMMENDED

2 *That the Commission for Higher Education and the governing boards be*

required to provide the Governor with an objective description of the competencies needed on the respective boards so that appointments will insure optimal functioning of the boards and adequate representation of the public interest

3 *That the General Assembly provide for the election of alumni members to the boards of trustees for state colleges, the regional community colleges and the state technical colleges, paralleling statutes which provide for alumni membership on the University of Connecticut board of trustees*

VARYING ROLES

Connecticut's institutions of higher education, including the 25 independent colleges and universities, approximately 60 proprietary schools and 28 hospital schools offer a wide diversity of learning opportunities.

Each unit in the state system has a distinctive role or mission to perform.

The Commission for Higher Education. The Commission is composed of 17 members, of whom 12 are appointed for eight-year terms by the Governor with the approval of the General Assembly. Four members are elected from the boards of trustees of the constituent units. The Commissioner of Education is an ex-officio member. Staff for the Commission is under the direction of a chancellor who serves at the pleasure of the Commission.

The Commission for Higher Education is charged in law (General Statutes, Chapter 178, Section 10-324) with responsibility for:

- Planning and coordination of higher education
- Establishing an advisory council
- Conducting research and studies
- Assessing legislative proposals and budgetary requests
- Licensing and accreditation of programs and institutions
- Approving the size of the executive staff and the duties of the executive secretary of the constituent units
- Preparing and publishing annual reports
- Promulgating regulations
- Commenting and making recommendations regarding changes in salary schedule or designation of a

given employee position as professional

- Approving leases for facilities
- Approving sites for public colleges
- Approving changes in tuition and other fees
- Serving as the agency of the state with respect to federal programs
- Providing for a comprehensive, coordinated and statewide system of college and university community service programs
- Preparing a Master Plan

As a coordinating agency, the Commission for Higher Education has no authority to make policy for the governance of single institutions. Rather, the Commission may recommend regarding matters which are system-wide or statewide in scope.

Among the additional responsibilities assigned to the Commission during the 1973 legislative session are the administration of federal and state grant programs, including federal assistance to proprietary school students, and the accreditation of proprietary schools. The Commission is also responsible under P.A. 73-440 for the biennial updating of this Master Plan. Further, the Federal Higher Education Amendments fo 1972 required that states, to be eligible for planning assistance funds, must designate a postsecondary education commission. The General Assembly so designated the Commission for Higher Education (P.A. 427, 1973).

The proprietary schools--private and profit making--offer a broad range of occupational programs, many of them in business and engineering design as well as in the trades. Until 1973, these schools could award only certificates of completion. Legislation enacted in the 1973 session, however, allows proprietary schools which meet accreditation requirements to apply to the Commission for Higher Education for degree-granting privileges. Accreditation criteria for these schools are being developed.

The task of updating the Master Plan every two years will necessitate continuous planning. This process will be greatly facilitated if the Management/Policy Group, formed by the Commission for Higher Education to expedite development of the Master Plan, is continued. Its membership includes the board chairmen of the constituent units and the president of the Connecticut Conference of Independent Colleges.

While virtually all Commission activity is carried out in cooperation with the

other constituent units of the public system and in consultation with the independent institutions, the Management/Policy Group represents the first instance in which the chairmen of the boards of trustees and the chief administrative officers have met regularly to discuss major policy issues.

It is important that this group, composed of persons in decision-making positions continue to work together on issues affecting the institutions they represent.

▶ ACTIONS RECOMMENDED

4 *That the General Statutes Section 10-323 be amended to include a representative of the Board for State Academic Awards as a member of the Commission for Higher Education, thus increasing the membership from 17 to 18*

5 *That the Management/Policy Group continue to meet, at least quarterly, to assess progress in carrying out the recommendations in this Master Plan and to accomplish its biennial updating*

The University of Connecticut. By law, the University has "exclusive responsibility for programs leading to doctoral degrees and post-baccalaureate professional degrees." Undergraduate, pre-professional, first professional and master's degree programs are also offered in the University's 17 schools and colleges. In addition, the University--also a land-grant college--provides extension and service programs which are appropriate for, and complementary to, its regular educational functions.

University facilities include the main campus in Storrs, the Health Center in Farmington, and five lower-division branches in Waterbury, Hartford, Stamford, Torrington, and Groton. The Hartford complex is also the site of the School of Law and the School of Social Work.

With the magnitude of the University's mission, continual reassessment is necessary. For example, a seven-member commission to study the operation of the Health Center and the advisability of establishing it as a public nonprofit corporation will make its recommendations in a separate report to the Governor and General Assembly in February, 1974.

Another difficult question facing the University's board of trustees is the direction in which the branches should develop. They were created to extend educational opportunities to the state's citizens at a time when no community colleges existed. Now that a diversified system exists,

thought must be given to alternative ways of providing the educational services which are required in the regions once served solely by the branches.

The feasibility of offering graduate and professional programs at other locations in the state besides Storrs and Hartford--possibly in cooperation with other institutions--also requires further study. Upper-division and graduate needs in Fairfield County, where so many corporate headquarters are now located, are being investigated by the Higher Education Center for Urban Studies (HECUS), headquartered at the University of Bridgeport. The Commission for Higher Education contracted with HECUS for the study under the provisions of P.A. 140.

The State Colleges. From their original purpose of training teachers, the four state colleges have evolved to multipurpose institutions. In addition to offering teacher education and liberal arts programs, the colleges have responded to demand by offering some undergraduate professional training. Courses in library science and business administration, for example, are being offered as is a continuation program leading to certification in industrial technologies for graduates of technical colleges. While these programs have been added, the statutes have not been revised to allow the programs' inclusion in the institutions' missions. The Commission believes that the legislation was not intended to set the limits that a strict interpretation provides.

▶ ACTION RECOMMENDED

6 *That the General Assembly amend General Statutes Section 10-326 to authorize the state colleges to provide undergraduate and graduate professional training as well as teacher education and liberal arts, and to provide continuation programs, for graduates of two-year technical and occupational programs, subject to approval of the Commission for Higher Education*

The Regional Community Colleges. The role of the community college is to offer programs and community services reflective of the postsecondary educational and training needs of the region it is to serve. Included in the curricula are programs which prepare students for transfer to four-year colleges; vocational and career-oriented programs, which can lead to an associate degree; and workshops and courses for adults. As an important part of its mission, the community college provides instruction at a transitional, "prefreshman" level to high school graduates who want to work for a degree but who do not offer sufficient evidence of academic preparedness. Both credit and noncredit courses are available as part of the continuing education

and public services provided.

These two-year commuter colleges, by their very nature, are closely tied to regional planning and must develop accordingly. One area may need a comprehensive community college, for example, while another would be better served by a higher education center in which a community college is one of the participants.

The State Technical Colleges. The mission of the state technical colleges is to prepare technicians for immediate employment in Connecticut industry. The colleges offer two-year, associate degree curricula in a variety of technologies: chemical, data processing, electrical, industrial management, mechanical, materials, civil, electromechancial, nuclear and manufacturing.

Although the primary function of the state technical colleges is the preparation of technicians, many graduates transfer to four-year institutions, indicating a possible need to modify the colleges' mission or, at the minimum to encourage senior colleges to adjust their programs to accommodate these students with minimal difficulty. Continuing education for those who have left school before completing their program and for adults who desire to update their skills or retrain for a new occupation is offered in the evening division.

Board for State Academic Awards. The 1973 session of the General Assembly enacted legislation (73-656) establishing a fifth degree-granting unit in the public system of higher education, the Board for State Academic Awards. This board is responsible for developing programs for earning academic credit by examination and for granting external degrees. The law specifies that the purposes of this board may be met in a number of ways, including, but not limited to, guidance and information services, technological services, and projects of research and development as well as examination and degree-granting services. The first members of the board were appointed in September 1973; its plans for operation are in the formative stages.

Higher Education Centers. In 1967, the Commission for Higher Education recommended the development of higher education centers in the state and successfully urged legislation that would permit their initiation.

The centers do not constitute another unit of the system; the operation of the units participating in a higher education center is the responsibility of the separate governing boards. However, a board of governors is charged with developing the centers.

The first center, approved in the 1969 session of the General Assembly will bring together on a single site in

Waterbury the State Technical College, Mattatuck Regional Community College and a branch of the University. This arrangement will allow all three institutions to enjoy better facilities than a single institution could readily provide. The establishment of other centers in the state is indicated, particularly in the New Haven and Hartford areas.

ENTERING AN ERA OF QUALITY

Cooperation among institutions can do much to meet contemporary demands without diverting available resources from existing institutions to new ones.

The present number of campuses throughout Connecticut, many of which were established in response to the burgeoning enrollments of the '50's and '60's, appears to be adequate for the enrollments projected for the next five years or more. Emphasis in planning can shift now from founding new institutions to finding ways to enhance the quality and diversity of services that can be offered to students by existing institutions.

▶ ACTIONS RECOMMENDED

7 *That, during the first biennium of the Master Plan, Connecticut adhere to a two-year moratorium on the establishment of new institutions, including the escalation of two-year university branches to four-year status*

8 *That the Commission for Higher Education be required to furnish to the General Assembly, prior to its authorization and funding of any new institution, the educational justification of the need for its establishment based upon the Commission's studies of population density, facility, utilization, program inventory, availability of comparable programs in the region, and other criteria of need*

UPDATING MISSION STATEMENTS

Whether educational institutions are changing too slowly or too rapidly is a matter of opinion.

Connecticut's institutions are changing to attract new students and ones not previously served, and to produce graduates who are equipped to live and work in an economic and social environment quite different from the one which existed when the institutions were founded and their purposes originally defined by statute. Consequently, current statements of mission need review and updating.

If the approval of new programs is to be based on mission statements as recommended in Section VI the statements must be comparable. Present statements vary considerably in content and

are to a large degree descriptive rather than prescriptive. Also, more specificity is needed in order for evaluations of performance to be made, as this Plan recommends.

A mission statement, in addition to providing broad specifications for programs to be offered in liberal arts, career training and graduate study, should define the geographic area and clientele normally served, the admission requirement, the optimum size of the institution, the range of programs, the extent of commitment to research and public service, and the cooperative arrangements with other campuses in the region.

▶ ACTIONS RECOMMENDED

9 *That each institution, with the greatest possible involvement of the campus community, and in conjunction with its constituent board develop an up-to-date mission statement, subject to approval by the Commission for Higher Education, that will encompass the programs and services institutions are being expected to offer in the '70's*

10 *That proposed changes in mission be approved by the Commission prior to implementation*

11 *That, when an institution's mission is approved, the governing board of the constituent unit of which the institution is a part assume primary responsibility for developing programs to accomplish the agreed upon mission*

12 *That the Commission for Higher Education request the boards of the independent institutions to submit mission statements or similar information to be utilized for planning purposes*

PERFORMANCE EVALUATION

The current administrative structure places a special burden on both the constituent unit boards and the Commission for Higher Education to maintain quality and cost effectiveness.

The boards, charged with developing the policies and making the decisions required for the actual operation of the institutions under their jurisdiction, must constantly assess what is going on: Are the institutions fulfilling their stated missions? Are current programs necessary? Are the most appropriate services being rendered? Is the research being conducted of the highest possible quality?

The Commission must ask similar questions, not only about its own functions and organization, but for the

entire system: Are too many teachers being trained? Are unit costs reasonable? Is another community college needed? Is quality being maintained despite inflationary costs? Are certain programs duplicative or no longer needed?

The need for continuous assessment has always existed. Techniques for measuring performance against predetermined objectives, however, are relatively new. In applying them to higher education, Connecticut has an opportunity to lead the way.

In January, 1971, a citizens' Task Force recommended to the Commission for Higher Education that periodic evaluations of each institutional unit and of the total system of higher education be undertaken by an independent organization or task force. Shortly after, the Etherington Commission made a similar recommendation for continuing audits of performance.

Performance evaluations, based on established and measurable criteria, would give evidence of how and where the state is getting the greatest educational return for dollars expended and would assist the Commission for Higher Education in planning with the constituent units for the future. In devising the criteria, it must be recognized that the value of an educational program cannot be measured solely in dollars returned for dollars expended. The quality of ideas, the value of humanistic studies, the value of pure scientific research are not easily and equally quantifiable. The same yardsticks cannot be applied to all disciplines.

Performance evaluation goes beyond accreditation but can be compatible with the accreditation process. Whereas accreditation asks if an institution is doing what it says it is doing and if it has adequate resources, performance evaluation asks, "Are you doing the right things?" and "Are you doing them well?" Performance evaluators would be somewhat more client-oriented than accreditation teams, which are made up almost exclusively of academicians. Evaluation teams would include representatives of business and the community, as well as other agencies interested in the state's resources. In many instances, accreditation and performance evaluation could be undertaken concurrently.

Reports of evaluations, using a standard format, would have many uses: as a basis for planning by institutions and their boards, and by boards and the Commission for Higher Education, as indicators of the need to modify an institution's mission or a means to greater cost effectiveness.

▶ ACTIONS RECOMMENDED

13 *That the constituent units*

cooperatively with the Commission for Higher Education develop measurable criteria for evaluating each institution's performance, utilizing outside advisors as necessary

14 *That the statewide Information System (I/S) for Higher Education be used to generate data, according to established performance objectives and criteria, which can be used by evaluators in their determination of how well institutions and the system as a whole are achieving their missions and in formulating recommendations as to how performance can be improved*

15 *That each institution, under the direction of its board and utilizing the services of persons, including minorities, both inside and outside the academic community, periodically evaluate the institution's achievement in performing its mission*

REGIONAL PLANNING

Both mission statements and performance evaluations must include concern for regional needs.

Following a 1971 study by Arthur D. Little, *Needs for Higher Education Related to Regional and Statewide Economic Development in Connecticut,* it was decided to establish six planning regions for higher education in Connecticut, closely related to planning regions identified by the Office of State Planning.

The purposes of establishing these regions were:

- To obtain information for planning purposes concerning postsecondary education needs;
- To stimulate suggestions for meeting defined needs;
- To develop cooperative action whenever possible and appropriate to meet the educational needs of a region.

Major responsibility for carrying out regional planning and cooperative delivery of needed education programs and services rests with the governing boards of the institutions, public and private, within each region, with the assistance of community advisory groups. The Commission for Higher Education participates in its role of planning and coordinating agency for the state.

The constituent boards are vitally interested in regional reactions to proposals being made by individual institutions. Knowing what neighboring institutions are planning can help the boards avoid wasteful duplication, recognize the programs and services in which an institution should specialize and revise institutional missions to fit the developing

needs of each region.

The emphasis is on cooperation rather than competition. In each of the six regions, the presidents of both public and independent institutions and a member of the staff of the Commission for Higher Education meet regularly to share information, to identify emerging needs and to consider cooperative ways of meeting those needs. Some beginnings of regional cooperative action include: cross registration of students, sharing of faculty and facilities, and recommendations for new programs or services.

One particular benefit of regional planning is the close association of public and independent institutions. In at least two instances, cooperative arrangements have been formalized as educational consortia. They are the Greater Hartford Consortium of five institutions and the Higher Education Center for Urban Studies (HECUS) in Bridgeport, a consortium of Fairfield County institutions.

HECUS has conducted a number of study and action programs in southwestern Connecticut. A study of regional needs and resources for both undergraduate and graduate education is now being conducted by HECUS with input from the Stamford Area Commerce and Industry Association (SACIA) and other organizations. Funded under P.A. 140, the study will examine, among other subjects, the feasibility of establishing a cooperative regional university using the resources of existing institutions in the region.

This option, if found to be feasible, could provide, through the University of Connecticut, access to the programs and services of every college and university in southwestern Connecticut. Cost estimates by the University for expanding the present two-year branch to a full-fledged four-year institution--as authorized by the General Assembly--indicate that annual operating costs would increase $2.7 million and that a capital expenditure of $10.0 to $15.2 million would be required, depending on whether the present site is used or a new site is acquired and developed.

Creating what might eventually amount to another state university in addition to the one at Storrs poses a significant economic problem for the state. As an alternative, a pilot model of a regional university, utilizing existing resources, merits consideration. Such a model would test the efficacy of cooperative planning and delivery of educational services to meet regional needs before committing the state to building a new campus and operating a second state university. Additional operating funds obviously would be required, but need for additional facilities would appear to be minimal.

▶ ACTIONS RECOMMENDED

16 *That regional planning become a major component of the overall planning and coordination of higher education in Connecticut*

17 *That P.A. 140 be amended to allow use of public funds in cooperative ventures of public and private institutions that jointly provide or share educational programs, facilities and services*

18 *That P.A. 140 provide support for administrative services as well as increased grants for cooperative endeavors*

TWO-YEAR EDUCATION

The goal of regional planning is to make optimum use of the state's educational resources to meet the needs of each of the six regions. Such planning is particularly applicable to the two-year colleges and University branches.

The state technical colleges, the regional community colleges and the University branches all provide local entry points to higher education. All are commuter campuses, several of which are located in close proximity to each other. The University's branches feed students automatically into the upper-division programs at the main campus in Storrs and a high percentage of students from all of the lower-division institutions continue their education by transferring to a four-year college or university. Consequently, cooperative planning is imperative.

The per-student support level of Connecticut's regional community colleges parallels that for the state's secondary schools. This would be tenable if it enabled the colleges to offer an adequate spectrum of programs but it does not. The level of operational support has been so low that it has limited the ability of the community colleges to provide preprofessional, terminal paraprofessional and skills programs, even in subject areas that do not require costly laboratories, shops and equipment. The low support level also curtails community service programs. The New England Association of Schools and Colleges has clearly indicated that it cannot continue to accredit some of Connecticut's community colleges unless their support levels and their facilities are improved.

Although the primary mission of the state technical colleges is to prepare technicians for immediate employment, many graduates transfer to four-year institutions. Continuing education is offered in the evening divisions, which operate 12 extension centers, using the facilities of the regional vocational/technical schools. The centers offer credit courses leading to an associate in science degree, as well as courses leading to a certificate.

The extent to which the state technical colleges are involved in transfers to four-year institutions leads to the conclusion that the interests of their students would be served best by closer affiliation between the technical colleges and other units of higher education. Ways must be found to facilitate the movement of technical college students into upper-division programs with a minimum of difficulty.

The same rationale which supports the separation of control for other postsecondary education from that of elementary and secondary education applies also to the state technical colleges. The membership of the board of trustees for these colleges should be distinct in composition from the State Board of Education.

Every region of the state is not equally served by community or technical colleges. Only one region--the Central Naugatuck Valley--has an authorized Higher Education Center. Where cooperation among nearby institutions can be enhanced, it must be; where both a community college and a technical college do not exist in an area, the residents of the area deserve access to a broader program than a single institution with a narrowly defined mission can offer.

Numerous options for improving educational opportunities throughout the state are within the scope of responsibility of the governing boards. In one region, joint occupancy of a higher education center by two or more institutions may be the best solution; in another area, reorganizing a University branch into a center to provide upper-division and graduate programs or adding counseling, testing and community services in concert with other institutions in the region may be the best answer. Another option to be considered is the establishment of comprehensive community colleges.

Certainly if Connecticut were starting to define a system of higher education where none existed, it would not establish three two-year components under three separate governing boards. Such a tripartite system is not typical in other states. It evolved in Connecticut as a result of multiple responses to unprecedented enrollment demands in the '50's and '60's. Many of the state's two-year campuses were established prior to 1965 when the public system of higher education was organized and the Commission for Higher Education was charged with coordination.

Critics of the present structure are concerned that there is unnecessary duplication of administrative costs and programs while some needs go unanswered. There is merit, therefore, in studying the operation and function of the various two-year components and evaluating the gains in educational enrichment,

effectiveness and efficiency that might be realized by having a single board responsible for all two-year units in the state.

The Commission for Higher Education is deeply cognizant of the concerns that potential changes create in the minds of students, faculty and administrators at institutions. It is the Commission's obligation, however, in concert with the constituent boards, to study in detail and to develop plans and actions that will be in the best interest of students and of the state, both now and in the future.

Readjustments, regardless of the course(s) chosen, must be carefully planned over a period of time to avoid any diminishing of needed educational services or any harmful effects on the institutions involved. Some actions must be taken sequentially but first steps should begin immediately.

▶ ACTIONS RECOMMENDED

19 *That the State Board of Education be relieved of responsibility for the technical colleges and that new members be appointed to a Technical College Board*

20 *That the governing boards of all institutions offering a two-year program or component consider how they can expand services to a region through combining efforts and resources*

21 *That the governing boards of the state technical colleges, the regional community colleges and the University, in conjunction with the Commission for Higher Education, study and report, prior to July 1, 1975, on methods for improving the interface of the three two-year components in order to expand opportunities in the respective regions*

22 *That facilities and support levels for the regional community colleges be significantly improved*

23 *That Connecticut begin development of comprehensive community colleges with a defined technical program element in geographical locations where there is no technical college in reasonable proximity*

24 *That courses be scheduled at the state's senior institutions in such a manner that state technical college students entering the junior year experience minimal difficulty in arranging a baccalaureate degree program*

25 *That the state technical colleges adopt the semester system in order to enhance program options for students who may wish to register for courses at more than one institution*

I. Goals
II. Current Climate
III. Organization and Structure

IV. ENROLLMENT

V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Modest increase in full-time undergraduates*
- *Part-time undergraduates to exceed full-time*
- *Information System data to include students from ninth grade*
- *New clientele to total 11,000*

IV. ENROLLMENT

An outstanding characteristic of the 1960's was the success of institutions of higher education in Connecticut and in the nation in meeting the increased demand for postsecondary education. A concurrence of events and attitudes--the increased birth rate after World War II, the desire of parents and their offspring for education beyond high school, the willingness of parents to pay tuition and of legislators and taxpayers to appropriate public funds for education--resulted in unprecedented growth in enrollment during the ten-year period.

In retrospect, the success of the colleges was phenomenal. They were prepared in great part by their experience during the 1950's by the influx of veterans from both the World War and Korean conflict, students whose aspirations for higher education were supported for the first time by federal funds provided under the well-known G. I. Bill.

The colleges learned they could provide education, with verve if not with total efficiency, to a greater portion of the population than had been considered either necessary or practical in the years preceding the war. The nation's growing economy, bolstered by the rush to rebuild Western Europe and Japan, easily absorbed the increased supply of college graduates.

The growth in enrollment during the 1960's is shown in Table 1 (p. 37). Note that Connecticut's rate of growth exceeded the average rate of growth in the nation as a whole.

Not only were there more 18-year-olds in the population; a greater percentage of these 18-year-olds completed high school and aspired to and participated in postsecondary education (see Table 2, p. 37).

In addition to expanding enrollments in its four-year colleges and universities, higher education in Connecticut, as elsewhere, accommodated the growing number of students by establishing a system of public two-year colleges. The regional community colleges and state technical colleges provided opportunities for many--including a portion of the population

TABLE 1

ENROLLMENT GROWTH, 1960-70

	CONNECTICUT			UNITED STATES *		
	Fall 1960 No.	Fall 1970 No.	Percent Increase %	Fall 1960 No. (000)	Fall 1970 No. (000)	Percent Increase %
Public						
Four-year colleges & universities	21,600	52,553	143	1,742	4,280	146
Two-year colleges	-	22,266	-	393	1,520	287
	21,600	74,819	246	2,135	5,800	172
Independent						
Four-year colleges & universities	30,800	49,318	60	1,414	2,010	42
Two-year colleges	1,400	2,543	82	60	110	83
	32,200	51,861	61	1,474	2,120	44
TOTAL	53,800	125,680	134	3,609	7,920	119

* *Fact Book in Higher Education*, ACE, Issue No. 1, 1973.

TABLE 2

CONTINUATION RATE OF HIGH SCHOOL GRADUATES

	CONNECTICUT			UNITED STATES		
	1960	1970	Percent Increase	1960 (000)	1970 (000)	Percent Increase
Population, Age 18	36,397*	51,800*	42%	2,787	3,826	37%
Number of High School Graduates	26,790	42,088	57%	1,864	2,906	56%
Ratio of High School Graduates to Total Population, Age 18	.74	.81	-	.67	.76	-
Number of High School Graduates Continuing Education	15,542	30,446	96%	923	1,780	93%
Percent of High School Graduates Continuing in some type of Post-secondary Education	58%	72%	-	50%	61%	-

*As of January 1 of following year

Source: Commission for Higher Education

that previously had not participated in higher education--to continue beyond high school.

A policy of open admission and a wide range of curricular offerings, including both general education and career programs, invited and attracted graduates who otherwise would have entered the labor market directly from secondary school or who would not have had an opportunity to combine work with study. In 1960 there was no state-supported two-year community college. By 1970 there were 12 two-year colleges and four technical colleges with a total enrollment of more than 22,000 students.

Also during this decade, the increases in appropriations voted by the state legislature to support public higher education more than kept pace with the increased enrollment. Acceptance of the concept that value received by both the individual student and society justifies public support was demonstrated by an increase in appropriations for higher education operations--exclusive of funding for the Medical Center--from approximately $13.8 million in 1960-61 to $87.8 million in 1970-71. This is an increase of 536 percent compared to the 246 percent increase in total enrollment. It reflects both program development and attention to quality improvement.

STORM SIGNALS OF THE EARLY '70'S

There were rumblings in the late 1960's which should have been heeded by more of those involved with higher education. A slackening state and national economy with fewer job opportunities for college graduates, threats of inflation, a grinding combat in Vietnam, student disaffection with the traditional roles and missions of colleges, changing standards of behavior caused by a move away from tradition and the "establishment" were evident before the numerical measures on college attendance became known.

Abruptly in the fall of 1971, after a steady increase since 1960, the percentage of high school graduates continuing their education fell by one percent to 71 percent and then dropped precipitously to 66 percent in fall 1972, the lowest continuation rate in a 13-year period. Although equations used to project future enrollment trends contain several factors, the most significant one is the number of high school graduates who proceed directly to college. The decrease in the continuation rate did not result in a drop in total enrollment in higher education from fall 1970 to fall 1972--enrollment actually increased one percent--for at least two reasons: the number of high school graduates increased during these two years, and a decrease in the continuation rate in any year has a delayed effect on total college enrollment.

This declining rate of high

school graduates who continue on in postsecondary education--and uncertainty as to whether it is a temporary or a long-term trend--is one of higher education's major problems. It presents a significant dilemma to those who attempt to forecast future enrollments. If, for example, the percentage of public high school graduates who go on to four-year colleges should fall as much as 10 percent below present rates, and if, at the same time, attrition rates for those who enter college should increase by ten percent, calculations indicate that there would be a 12 percent decrease in four-year college enrollment during the five-year period ending in 1978. One means of reducing that possibility is to extend opportunity in higher education to individuals in our society who have been effectively denied that opportunity by circumstance.

Studies which assume that the present rate of public high school graduates who continue to two-year colleges will remain constant and that attrition rates will increase by ten percent indicate that enrollment growth in the two-year colleges during the five-year period ending in 1978 will be limited to less than two percent.

ALTERNATIVES TO DECLINING ENROLLMENT

Enrollment estimates for Connecticut from the Commission for Higher Education's research division are somewhat more optimistic. While forecasting enrollment demand for the future is extremely difficult, this Plan projects a modest increase in traditional students.

The principal statistical basis for the projection of increasing enrollments in higher education is that the number of high school graduates will increase from 44,500 in 1972 to 52,900 in 1979, the year in which the number of high school graduates will be at a maximum.

When latest estimates of the rates at which high school graduates will attend college and of the attrition rates among college students are applied, together with measures of other variables, the formula projects an increase of six percent in full-time undergraduate students over the five-year period from 1974 to 1978.

Colleges and universities throughout the United States, faced with a similar situation, are stepping up their efforts to recruit students. A stated goal of the state system is to provide opportunities for postsecondary education for all who are qualified or who can become qualified. Although growth in opportunity in the '60's was significant, the colleges and universities--and the secondary schools--can do much more to extend educational advantages to more citizens.

At the present time, 45 percent

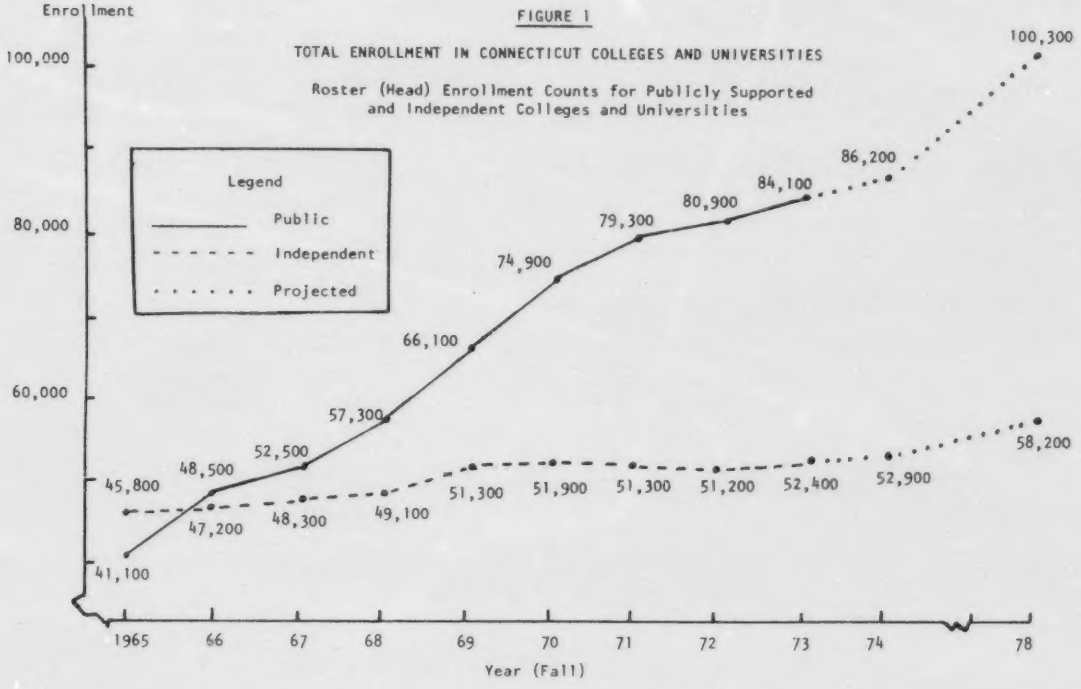
of all 18-year-olds in Connecticut either do not complete high school or do not engage in full-time study in any kind of postsecondary program. In total, Connecticut is providing undergraduate opportunity in full-time, part-time and unclassified status to slightly more than half of its undergraduate college-age population. Connecticut, a high-income state whose economy depends on educated manpower, can and must do more.

With projected business growth, particularly in service industries, it is reasonable to expect an in-migration of workers. The resources already exist to provide the state's residents with a choice among types of education and institutions, careers and manners of living. The resources should be exploited to the fullest extent to attract persons who are not now participating in higher education but who can benefit from it.

FIGURE 1

TOTAL ENROLLMENT IN CONNECTICUT COLLEGES AND UNIVERSITIES

Roster (Head) Enrollment Counts for Publicly Supported and Independent Colleges and Universities



PROJECTED ACHIEVABLE ENROLLMENT FOR 1974-78

The Commission for Higher Education, as a planning agency, concerns itself with total enrollment demand and indicates how it should be distributed among public and private institutions.

The method used in arriving at a projection of achievable enrollment for the first five years of the Master Plan is one which forecasts the demand for full-time undergraduate places in all colleges and universities, public and independent, in Connecticut. Full-time undergraduate enrollment is used because the available data on this category of student are more accurate and more easily confirmed than are estimates of part-time and unclassified students. The estimates made for future enrollment of full-time undergraduates are then extended to include part-time undergraduates, and both full-time and part-time graduate students. These extensions are made on the basis of historical data which relate full-time undergraduate enrollment to the graduate and part-time enrollment. An additional eight percent is added to the historical base. This is an estimate of the students who will enroll in nontraditional educational programs, obtain credit through alternative methods, and take advantage of other increased opportunities for higher education, described elsewhere in this Plan. It is anticipated that these students, all of whom will be part-time, will total 11,000 by 1978.

Admittedly, projections of enrollment can be hazardous, particularly at a time when many new variables are emerging. The general method, however, is in common use and considered to be dependable.

In brief, the formula utilized calculates separately for four-year and two-year institutions the total student demand for places in Connecticut colleges. (For details, see Appendix, Exhibit 13.) The formula involves the following factors by year:

- The number of public and private high school graduates.
- The percent of the public and the percent of the private school graduates continuing to four-year and two-year colleges.
- A freshman demand figure for four-year and two-year colleges based on these continuation rates.
- An allowance for earlier high school graduates who resume their education at the college level.
- A total four-year and two-year freshman demand.
- An extension of the demand for freshman places into an estimated demand for four-year and two-year places.
- An estimate of the number of veterans who will enroll in four-year and two-year colleges.
- An estimate of transfers

into four-year and two-year colleges.

- A total full-time student demand for four-year and two-year colleges.
- Subtraction of the estimated net out-migration of Connecticut students to institutions in other states in the nation.
- A projected full-time undergraduate enrollment for four-year and two-year colleges.

When values are substituted for these variables, the estimate of student demand is as shown in Table 3.

TABLE 3

TOTAL STUDENT DEMAND BY CONNECTICUT STUDENTS
FOR FULL-TIME UNDERGRADUATE SPACES IN CONNECTICUT

Fall of Year		No. of Full-Time Undergraduate Students	Percent Increase 1972 = 100.0
Four-Year Colleges & Universities			
Actual	1970	59,836	
	1971	61,396	
	1972	61,270	100.0
*Estimated	1973	62,280	101.6
Projected	1974	63,770	104.1
	1975	65,570	107.0
	1976	65,420	106.8
	1977	66,250	108.1
	1978	67,240	109.7
Two-Year Colleges			
Actual	1970	14,014	
	1971	15,086	
	1972	14,185	100.0
*Estimated	1973	15,120	106.6
Projected	1974	16,060	113.2
	1975	16,070	113.3
	1976	16,630	117.2
	1977	16,640	117.3
	1978	17,190	121.2

*Actual figures for fall 1973 are:
62,332 for four-year and
14,211 for two-year colleges.

These total full-time undergraduate enrollment figures are distributed among the constituent units as follows:

TABLE 4

PROJECTED FULL-TIME UNDERGRADUATE ENROLLMENTS, BY CONSTITUENT UNITS

Four-Year Colleges and Universities	Fall 1972 Actual *	Fall 1974 Projected	Fall 1978 Projected
Independent	26,892	28,000	29,310
Univ. of Connecticut	14,096	14,850	15,830
State Colleges	19,199	19,800	20,900
U.S. Coast Guard	1,083	1,120	1,200
Subtotal	61,270	63,770	67,240
Two-Year Colleges			
Independent	1,116	1,110	1,000
Reg. Community Colleges	10,838	12,300	13,390
Technical Colleges	2,231	2,650	2,800
Subtotal	14,185	16,060	17,190
TOTAL	75,455	79,830	84,430

* *Higher Education, Annual Enrollment Survey*, CHE, 1972

When the full-time undergraduate projections are extended to total enrollment (as a headcount), they appear as follows:

TABLE 5

PROJECTED TOTAL ENROLLMENT BY CONSTITUENT UNIT

Four-Year Colleges and Universities	Fall 1972 Actual	Fall 1974 Projected	Fall 1978 Projected
Independent	49,278	50,900	55,250
Univ. of Connecticut	20,514	21,450	26,500
State Colleges	32,442	33,400	35,800
U. S. Coast Guard	1,083	1,120	1,200
Subtotal	103,317	106,870	118,750
Two-Year Colleges			
Independent	1,913	2,000	3,000
Reg. Community Colleges	21,477	23,900	29,000
Technical Colleges	5,412	6,300	7,800
Subtotal	28,802	32,200	39,800
TOTAL	132,119	139,070	158,550

An overview of these projections can be obtained by listing the growth rates in the college-age populations together with the projected growth rate in the college populations.

TABLE 6

RATES OF GROWTH SHOWING 1972 AS BASE YEAR (100.0) AMONG POPULATIONS AND ENROLLMENT PROJECTIONS

	Connecticut			Full-Time Undergraduate Demand	Total
Year	18 yr. olds	H.S. Graduates	18-21 yr. olds	4 yr. & 2 yr. (Table 3)	Enrollment (Table 5)
1972	100.0	100.0	100.0	100.0	100.0
1973	102.9	104.7	104.0	102.6	
1974	106.5	106.3	107.8	105.8	105.3
1975	108.8	113.2	111.5	108.2	
1976	109.6	114.4	115.0	108.7	
1977	109.5	116.5	117.1	109.9	
1978	111.2	117.8	118.7	111.9	120.0
1979	110.0	119.1	119.7		
1980	107.8	116.8	119.5		

OBSERVATIONS

The projections contained in this report for full-time undergraduate enrollment represent approximately 35 percent of the state's college-age population.

In a state whose chief resource is the skill of its educated citizens, a goal in the 40 percent range would be modest.

However, in the present environment, in which the rate of high school graduates going on to college is falling, it seems unrealistic to project full-time undergraduate enrollment at a higher level than this for the near term. This guardedly optimistic projection appears to be achievable.

With regard to part-time undergraduate enrollments, it is anticipated that their rate of growth will exceed that in the full-time classification. During the last three years part-time undergraduate

enrollment in the state has increased 30 percent. Further increases are projected as additional services accrue to those citizens who are unserved or poorly served at present. This includes, among others, young people who are not admitted to institutions of higher education mainly because their academic potential is not measured adequately by current admissions criteria, older persons who have not been encouraged to participate, and those financially unable to attend.

In projecting and planning for the future, there is a serious need for data to enable planners to describe the college-age population in Connecticut which is not continuing with postsecondary education. Studies in other states indicate that the abilities of this group would form a bell-shaped curve which would be skewed only moderately to the low side of the academic measurement range.

▶ ACTIONS RECOMMENDED

26 *That the Commission for Higher Education jointly with the State Department of Education extend the college student data base in the planned Information System to include all high school students in Connecticut starting with the ninth grade*

27 *That new student clientele be developed in response to the state's goal of providing maximum opportunity in higher education with the expectation of serving an additional 11,000 part-time students by 1978*

I. Goals
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V. FACILITIES

VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Adoption of facilities standards*
- *Computerized facilities inventory*
- *Access for physically handicapped*
- *Top priority for community college facilities*
- *Increased facilities sharing*

V. FACILITIES

Data on physical facilities in public and private colleges in Connecticut have been recorded by the Commission for Higher Education on a regular basis since 1969. The 1972 report includes all institutions except Yale, University of Bridgeport and Rensselaer Polytechnic Institute. It lists 10.7 million gross square feet of facilities in the public sector, including leased space, and 9.2 million gross square feet in the private sector. Using a current construction cost of $60 per square foot, which includes site work and building equipment, the replacement value of this property is $642.6 million and $553.3 million respectively, or a total of about $1.2 billion.

This physical inventory amounts to 92.8 net assignable square feet for each full-time equivalent student, an amount not significantly out of line with current recommended standards. The available data also show that the amount of space per student has increased slightly during the decade for which such data are available.

The situation in the public institutions included in the totals and averages cited is much less favorable. Public space per student declined by 19 percent during the '60's despite extensive building programs and the use of temporary and leased facilities.

The public average is 77.0 square feet per student. Within this average, the state colleges are at 67.2, the technical colleges at 77.8 and the regional community colleges lowest with 41.7 square feet of assignable space per full-time equivalent student. This includes 500,000 square feet of space leased by the community colleges at a cost of $1.9 million per year.

A lack of space is clearly visible in the community college system; several of these recently established institutions are without permanent campuses. The old factory which houses Greater Hartford Community College, for example, provides 36.6 net square feet per student; the modern factory which was leased for Housatonic has only 36.8 net square feet per student. Norwalk's converted factory provides even less: 28.0 net square feet. At the bottom of the list is Tunxis in its leased shopping

center with just 25.6 net square feet per student. Even the new "temporary" campus which houses Manchester Community College has grossly inadequate space by normative measures with 29.7 net square feet per student. Generally speaking, the colleges which lease evening-hour space from public schools have the most space per student. Mohegan Community College, which purchased a former high school, tops the list with 70.4 net square feet per student.

A detailed analysis of the information on which the averages are based reveals specific space inadequacies. In study space, for instance, which includes book storage, the community colleges show only 2.9 square feet per student. The technical college student has 6.4 square feet of such space and the state college student has 9.6 square feet for study.

TABLE 7

AVAILABILITY OF INSTRUCTIONAL ROOMS
Average Hours Per Week

	No. of Institutions Included	Average Hrs./Week Rooms Available
Four-Year		
Univ. of Conn., Storrs	1	50
State Colleges	4	71
Independent	11	49
Two-Year		
Univ. of Conn. Branches	5	57
Reg'l Community Colleges	11	54
* Technical Colleges	4	39
Independent	3	50

*Evening instruction not reported

Source: *Analysis of Space Utilization in Connecticut Institutions of Higher Education, Fall, 1972.* Prepared by the CHE, June, 1973.

UTILIZATION OF FACILITIES

Part of the reason for the lower-than-average amounts of space per student in the public sector is the increased use of late afternoon and evening hours for instruction. Two factors have combined to produce this result: (1) institutional inability to accommodate students during hours of peak demand, even by using rooms not designed for instruction, such as study rooms and conference rooms, and (2) an increase in demand for instruction in evening hours by students who work full- or part-time. Table 7 demonstrates the degree to which institutions have extended their instructional hours to meet student needs.

CLASSROOM AND LABORATORY USAGE

Data available from the Commission for Higher Education for 1972 indicate that as Connecticut institutions have extended the length of their instructional day they have reduced the percentage of classroom and laboratory usage below normative use rates based on a 40-to-45-hour week. Table 8 illustrates this situation and also indicates some potential for enrollment growth in late afternoon and evening hours before expansion capability is exhausted.

TABLE 8

PERCENT OF ROOM USE DURING TIME AVAILABLE

	Classrooms %	Laboratories %
Recommended Per 40-Hour Week: Upper Division	65	35
Univ. of Conn., Storrs	49	31
State Colleges	60	40
Independent	48	25
Recommended Per 40-Hour Week: Lower Division	75	45
Univ. of Conn. Branches	44	29
Reg'l Community Colleges	49	33
Technical Colleges	57	33
Independent	32	16

Sources: *Analysis of Space Utilization in Connecticut Institutions of Higher Education, Fall, 1972.* CHE, June, 1973.

Higher Education Facilities Planning and Management Manuals. WICHE, 1971.

One further measure of facility utilization is the percentage of room capacity use each time the room is occupied. This measure cannot be made wholly comparable since the number of chairs or work stations

per room varies among institutions and may not conform to institutional concepts of desirable class size. As Table 9 shows, usage by Connecticut institutions generally exceeds the use rate recommended by WICHE.

TABLE 9

PERCENTAGE OF STATION USE DURING ROOM USE

	Classrooms %	Laboratories %
Recommended Rate: Upper Division	55	55
Univ. of Conn., Storrs	62	74
State Colleges	67	63
Independent	52	64
Recommended Rate: Lower Division	67	85
Univ. of Conn. Branches	52	69
Reg'l Community Colleges	72	79
Technical Colleges	67	79
Independent	62	62

Sources: *Analysis of Space Utilization in Connecticut Institutions of Higher Education, Fall, 1972.* CHE, June, 1973.

Higher Education Facilities Planning and Management Manuals. WICHE, 19/1.

DETERMINATION OF SPACE NEEDS

Ideally the amount of space needed by an institution is determined by its instructional program, the services which support this program, and the numbers of students, personnel and programs which must be accommodated. While these vary greatly from one institution to another, they may be generalized for categories of institutions. These generalizations afford some guidelines for institutional planning and also indicate the magnitude of probable future capital expenditure for purposes of state policy.

Many states, in fact, have specified facility standards for higher education. While Connecticut has not formally adopted such standards, a study made by the staff of the Commission for Higher Education in 1970 for a task force on taxation, made an estimate based on normative standards projecting facility needs through the decade. The assumptions in this report were

that each full-time equivalent (FTE) student required 155 gross square feet of enclosed space and that each campus required 40 acres of land per 1000 FTE. Projecting these requirements in terms of anticipated unit costs of $60 per gross square foot of space, $4,500 to $7,000 per acre of land and the 1980 projected enrollment, a total of $572 million was derived. This estimate did not include site development, equipment or inflation. When these factors were added, the capital need for new facilities only, exclusive of renovation or replacement of existing space, appeared to be $850 million for the decade of the '70's.

The Commission for Higher Education questioned whether an expenditure of this magnitude would be in the best interests of the state. Investigations were begun with the dual aim of achieving more realistic estimates of space needed and lower development costs. The latter aim has the full support of the Public Works Department which recently adopted construction management techniques and can now anticipate costs in the range of $40 per gross square foot, including site purchase, development and equipment. Using this cost estimate and assuming no inflation, the 9.4 million gross square feet reportedly needed by 1980 could be acquired for $376 million. This amount, the Commission believes, can be reduced further if alternative means of providing instruction are utilized.

FIVE-YEAR PROJECTIONS FROM THE CONSTITUENT UNITS

The above projections based on space standards do not vary greatly from the projections for capital expenditures through 1978-79, prepared by the constituent units and filed with the Commission for Higher Education. The latter total $423.2 million, including $97.2 million in revenue-producing facilities.

Less than ten percent of the total amount, however, is for the regional community college system, although eight of the 12 colleges still require permanent campuses.

Current requests for capital funds for other units, including a new campus for Western Connecticut State College, a new or expanded campus to transform the two-year Stamford branch of the University into a four-year branch, and specific new buildings and considerable space renovation for several other institutions, must also be taken into account. Some of these needs, such as Southern Connecticut's shortage of academic space, particularly science laboratories, are real and cannot go unmet indefinitely.

One special need is for more facilities that can accommodate the physically handicapped. Another is a change in the way revenue-producing buildings, such as student centers, dining and dormitory facilities, are financed.

Funding can no longer be borne by students without an excessive rise in fees; increasing student fees sufficiently to cover amortization of these facilities will make the cost of higher education prohibitive for many students.

WAYS TO SAVE

There are a number of influences that can reduce the investment the public must make in facilities in order to maintain the commitment to higher education which the state made when it established the present public system and the institutions that comprise it.

One way is to lower the amount of space per student below the standard of 155 gross square feet used in the 1970 study. For instance, 119 gross square feet per student was agreed upon for the Central Naugatuck Valley Higher Education Center. The projected saving results from a design in which three two-year colleges share a common campus and make joint use of most facilities. This principle has potential for statewide application as sites are chosen for community colleges now housed in leased facilities.

Another source of cost reduction may be increased sharing of independent college facilities with nearby public colleges. Legislation has been passed and modestly funded which allows public institutions to lease facilities, programs and services from nonpublic institutions. If regional cooperation, as contemplated in this Master Plan, results in an integration of services, with full service a regional rather than an institutional goal, then sharing will reduce both capital and operating costs. Nationally, there are already more than 100 legally constituted educational consortia, whose organization has been spurred on by both common sense and economic necessity.

Another factor that may affect capital costs is the emergence of nontraditional styles of education. These include credit by examination for learning achieved essentially outside the formal educational system and wider use of instructional technologies, such as audio and video cassettes and computer storage that allow usage at points remote from the campus.

An expanded use of work-study programs, utilizing specialized facilities off-campus as the learning environment, can also have a marked effect on the number of additional facilities which need to be constructed.

While taking instruction to the student may result in some savings, the need for capital funding for equipment and building renovations at campuses which develop as resource centers for nontraditional study may supplant the need for new buildings. Also, external degree programs may bring new students

into higher education or the year of study eliminated in a three-year baccalaureate program may be a stimulus to growth in graduate programs.

THE FACILITIES PROCESS

In order to assure that capital expenditures will fulfill but will not exceed actual need, careful attention must be given to the entire process from need projection through facility construction. This process--if it is to control costs and create facilities where rational criteria indicate the greatest need--must involve cooperative decision-making by several agencies: the Commission for Higher Education, the boards of trustees of the constituent units, the Public Works Department, the Department of Finance and Control, and the executive and legislative branches of the government.

One possible way to arrive at a mutually acceptable decision regarding the state's investment in higher education facilities would be to establish a joint task force with representatives of each of the concerned agencies to establish planning standards for the amounts of space to be constructed and the dollar cost limitations.

ACTIONS RECOMMENDED

28 *That each board of trustees provide for a comprehensive review of existing space and its utilization*

29 *That these reviews be used to validate space needs for capital budget requests*

30 *That these reviews make full use of review techniques such as those described in the* Facilities Planning and Management Manuals *published by the Western Interstate Commission for Higher Education*

31 *That each institution, utilizing a standing committee of faculty and administrators, provide for estimates of current and projected facilities needs and communicate these needs to its board of trustees*

32 *That in every case where need is verified by board review, the alternatives of renovating, leasing or regional sharing be investigated and reported along with capital requests*

33 *That the Commission for Higher Education seek legislation and appropriate funding to assure that institutions of higher education may purchase program services and lease nonpublic spaces as alternatives to the construction of new facilities*

34 *That every effort be made to locate new campuses on sites which will lend themselves*

to shared use with existing institutions

35 *That, following approval of a request for major capital expenditures, the Commission for Higher Education, in cooperation with the Public Works Department and the Department of Finance and Control, establish procedures which involve these agencies, the appropriate board and institution in the process of planning, design and construction*

36 *That all educational facilities be constructed with full recognition of the needs of the physically handicapped*

37 *That certain capital projects now classified as self-liquidating--such as student centers, dining halls and infirmaries--be removed from that category and that such existing projects be amortized at least in part from general fund appropriations*

I. Goals
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V. Facilities

VI. PROGRAMS

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VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Mission concept of program approval*
- *Systemwide inventory on computer*
- *Regional coordination of programs*
- *Criteria for program evaluation*
- *Annual review of programs*
- *Higher priority for continuing education*
- *Futures planning for year 2000*

VI. PROGRAMS

The lifeblood of a system of higher education is the programs it offers. Colleges are organized and funded and campuses are built in order to offer educational services. Educational programs are intended to assist individuals in both their personal growth and their professional development, and to benefit society. How well an institution succeeds and how long it endures depends upon the quality and relevance of its curriculum.

CHALLENGES TO PROGRAM PLANNERS

Offering programs that are timely is critical, a fact that more and more educational institutions have discovered. Not only must the curriculum respond to personal, vocational and social needs, it must respond quickly if it is to continue to attract and serve students.

In practical terms, this means anticipating needs; initiating programs at the time when demand for them is keen; pruning programs that are unnecessarily duplicative and therefore prohibitively costly; and updating, merging or phasing out courses that are outmoded.

In Connecticut, responsibility for making these difficult decisions is shared by faculties, governing boards and the Commission for Higher Education. The role of each group relates to its particular expertise: faculty members develop new academic programs; governing boards judge their appropriateness to mission, need and support available; the Commission, as the coordinating agency, defines total statewide postsecondary needs and determines whether the programs being proposed contribute to the meeting of these needs.

IMPORTANCE OF COORDINATION

There are 134 postsecondary institutions in Connecticut serving approximately 150,000 persons each year. They can be grouped into seven categories as follows:

Proprietary Schools	60
Hospital Schools	28

Independent Colleges & Universities	25
Technical Colleges	4
Community Colleges	12
State Colleges	4
State University	1

Collectively, these institutions are capable of meeting the educational needs of all but a fraction of Connecticut's citizens. Since passage of P. A. 408 in 1973, proprietary schools may seek accreditation to grant degrees under the same policies that apply to the nonprofit institutions. Overall, the diversity in size, objectives and capabilities of Connecticut's postsecondary institutions, while a unique strength worth preserving, makes coordination of effort difficult. It is only natural that, among 134 institutions, there will be some competition for students, resources and programs.

Actions by public institutions can have a marked effect on the independent colleges and vice versa. The present structure of higher education, however, provides adequate means to prevent unnecessary duplication and competition. The Commission's Subcommittee on Coordination of Planning, on which the constituent units and the independent colleges are represented, and the groupings of institutions in each of the six regions offer opportunities for the exchange of information and the coordination of program development both regionally and statewide. To make the coordination of postsecondary education programs even more effective, membership on the SCP should be broadened to include a representative of the proprietary schools.

▶ ACTIONS RECOMMENDED

38 *That membership of the Subcommittee on Coordination of Planning include one representative from each of the constituent units in the public system, one from the Commission for Higher Education, one from the independent colleges and one from the proprietary schools*

39 *That, in implementing its responsibility for balanced statewide program offerings, the Subcommittee on Coordination of Planning shall*

a) Act as a catalyst in encouraging cooperation between institutions in each of the six planning regions designated by the Commission and in the establishment of consortia where study shows that some formal collaboration will best serve the needs of students

b) Take special note of programs offered by proprietary and nondegree-

granting institutions in which the program content might be evaluated for college transfer credit, such as courses in accounting, design technology and nursing, among others

c) Encourage the constituent units to develop new programs to serve additional students, in particular those who do not now continue their education upon graduation from high school

PRESENT METHOD OF PROGRAM DEVELOPMENT

Under the present method of program review, the faculty of the public institutions of higher education recommend initiation of a new program first at the institutional level, and then to the institution's governing board. If the board agrees that the program should be added to the curriculum, it seeks the approval of the Commission for Higher Education.

The Commission for Higher Education arranges for a review of the program by the Commission's Subcommittee on Coordination of Planning (SCP) and its ad hoc Program Committee. They consider the need for the program in the state, whether or not it is unnecessarily duplicative, its potential impact on institutions already offering similar programs, the ability of the institution to initiate a quality program with existing or readily available resources, and the student demand. Traditionally, Commission approval has followed the favorable recommendation of these two committees.

MISSION CONCEPT OF PROGRAM PLANNING

One way to facilitate the process of program development is to amend the present practice of program approval in line with the mission concept (see Section III, page 26). Application of the concept can be effective only if there is a clearly defined and formally approved statement of each institution's mission.

The bases for institutional mission statements can be found in the description of the role and scope of the constituent units (see *Goals*, the report of Resource Group I, pages 57-73) and in the summary of the types of programs offered by each unit of postsecondary education (see *Programs*, the report of Resource Group IV, pages 88-92).

Once each institution's current mission with reference to its program objectives is defined and formally approved, proposed program changes can be related to mission. Each board, when satisfied that a

program is within an institution's mission and is not in conflict with programs in other institutions, can notify the Subcommittee on Coordination of Planning (SCP) of its intent to initiate the program. If the SCP concurs that the program is within the institution's mission, no further approval would be necessary.

In the rare case that the SCP does not concur, the institution can withdraw the proposal or it can ask that its over-all mission statement be revised to encompass this type of program. Also the Commission for Higher Education, in reviewing total state needs, may suggest to the constituent units revisions of mission statements to encourage the initiation of programs for which there is a demonstrated need.

Until mission statements are adopted and until the recommendations altering the present method of program approval are implemented, the present procedures will continue in effect.

▶ ACTIONS RECOMMENDED

40 *That the mission concept of program development be endorsed and implemented in the public system of higher education*

41 *That, after a consensus has been reached among the constituent units as to each institution's mission, the definitions of mission that are agreed upon and approved by the Commission for Higher Education, within the limitations of the statutes, be used as the basis for new program development and for the evaluation of performance*

42 *That all proposed program additions and changes be reported to the Subcommittee on Coordination of Planning for information purposes and for obtaining concurrence from that body that the new programs are within the defined missions*

43 *That new programs being reported to the Commission be accompanied by a report of the reactions of other institutions in the same planning region*

44 *That the institutions in each of the six regions, insofar as possible, mediate programmatic and geographic disagreements with respect to initiation of programs before referring the matter to the Subcommittee on Coordination of Planning*

45 *That the Subcommittee on Coordination of Planning review all proposed new*

programs for purposes of regional and statewide coordination and to verify that programs comply with mission

46 *That, when an institution proposes initiating a new program that is not within its defined mission, the Subcommittee on Coordination of Planning, reflecting its belief that the program should be introduced, recommend to the Commission that the mission statement be revised*

CONCERNS ABOUT DUPLICATION

A major weakness of the present system of program approval is the lack of any formalized procedures for review of programs once they are instituted.

Most new programs, the Resource Group on programs found, appear to be justified at the time they are initiated. However, needs change and unless curricula are reassessed constantly, it is possible for unnecessary duplication to occur.

In recent years, for example, institutions nationwide have made an intensive effort to develop "relevant" programs in the health professions, where shortages were projected. From 1965 through 1972, the Commission for Higher Education licensed a total of 153 new programs, of which 22 were in health fields. It now appears that these programs may produce an oversupply in some health career fields.

A similar situation may be developing in teacher education. Several independent institutions, with the requisite resources available, have received accreditation for programs in teacher education at a time when other institutions are grappling with the problem of overproduction of teachers in the face of lessening demand.

The elimination of existing programs, however, is a sensitive problem which confronts higher education nationally. As higher education moves from a period of rapid growth to a more stable period, most states are searching for solutions. They are difficult to obtain.

Some duplication, of course, is necessary. There may be a need for ten sections of a course on one campus or one section at each of ten different campuses. Liberal arts programs are offered at every college and university in Connecticut because they are necessary to provide the general education component required for all students. The geographic location of an institution and the characteristics of its student body -- whether they are residents or commuters -- are also important factors

in determining the necessity of a program.

In order to plan effectively, all colleges, when developing new programs or considering the deletion of obsolete programs, need to have available to them the most recent and accurate information on programs and program planning within the region and the state. The Commission for Higher Education, in order to coordinate programs effectively, also needs to know what programs are being planned.

While confidentiality about proposed programs is not generally necessary, it can be maintained as it has been in the past. When an institution indicates to the Commission that it prefers to have its projected program plans kept confidential, the Commission does not make the information public.

▶ ACTIONS RECOMMENDED

47 *That the constituent units and the Commission for Higher Education define criteria for identifying programs that are obsolete or unnecessarily duplicative*

48 *That for input to the Information System (I/S) each of the constituent units submit to the Commission for Higher Education, in a form prescribed by the Commission, an inventory of programs currently being offered and that the independent institutions be requested to submit a similar inventory*

49 *That the Commission for Higher Education maintain a complete and current inventory of existing programs*

50 *That inventory reports from the constituent boards be accompanied by a listing of programs being deleted, merged or shelved, with identification of the criteria which were used in deciding upon the changes*

51 *That all institutions, public and private, be requested to submit annually to the Commission for Higher Education a five-year projection of the program changes they are considering*

52 *That the Commission for Higher Education provide, on a continuing basis, to all institutions, public and independent, the most up-to-date information about emerging program needs*

53 *That the Commission keep the public and the administrative and legislative branches of the state government apprised*

of program needs and the efforts being made to meet them

PROGRAM APPRAISAL

A major purpose of regional and state accrediting procedures is to assure the public of the quality of intructional programs.

Regional accreditation by the New England Association of Schools and Colleges is sought on a voluntary basis and is not required by the state for operation. A parallel program of licensure and accreditation, however, is required in the General Statutes. This function is performed by the Commission for Higher Education.

Accreditation procedures, while evaluating the academic soundness of programs, are not intended to measure the need for the programs. The need to merge, revise and eliminate programs, however, is unavoidable as higher education approaches an enrollment plateau and enrollments in new programs draw students from old ones. A more formal ongoing evaluation of programs appears to be necessary.

Many states are attempting to identify meaningful indicators of academic performance. Suggested measures include "productivity" and the cost/revenue relationship of courses and programs, both of which are difficult to evaluate. However, the lack of specific and agreed-upon criteria for identifying programs which should be merged, revised or eliminated should not delay the review of existing programs. The Commission for Higher Education and the boards of trustees of the constituent units, with the assistance of recognized authorities, should begin immediately to formulate procedures for program review.

The educational value and quality of programs should be examined and evaluated along with such factors as enrollment, degrees awarded, manpower projections and cost effectiveness.

When procedures have been established, each constituent unit should begin to review approximately one-fifth of its program offerings yearly, so that all programs will be reviewed at least every five years. Reports of the review should be forwarded to the Commission for Higher Education for information and planning purposes. Programs which do not meet minimum standards for continuance should be scrutinized closely by the constituent units and boards should urge institutions to delete programs and departments when necessary to keep the curriculum current.

Ad hoc committees made up of in-state and out-of-state members with a variety of

competencies, including knowledge of the academic field, active practice in the career for which the programs prepare students, and experience in evaluating cost effectiveness, should be available upon request to any institution desiring their services.

▶ ACTIONS RECOMMENDED

54 *That the Commission for Higher Education and the boards of trustees of the constituent units establish procedures for the performance evaluation of programs*

55 *That each board of trustees, following the agreement on procedures, review 20 percent of each institution's programs yearly and provide the Commission for Higher Education with a report of its findings*

56 *That the Commission for Higher Education and the constituent boards utilize these reports as a major basis for planning in the area of program development and offerings*

CAREER EDUCATION

There are many ways to add to the dimensions of traditional programs without departing from tested and accepted teaching techniques. Four of the most common approaches, used in limited ways in Connecticut, are expanding career-oriented programs, upgrading the quality and status of continuing education, incorporating work experience into the curriculum, and participation in international education.

In a time of economic stringency, maintaining both high quality liberal arts and career-oriented programs is a challenge. The task is further complicated by difficulties in anticipating student preferences and in obtaining accurate manpower projections.

However, the distinctions between liberal arts and technical education are not as extreme as some suggest. As early as 1929, Alfred North Whitehead in *The Aims of Education* argued against the assumed distinctions:

> *The antithesis between a technical and a liberal education is fallacious. There can be no adequate technical education which is not liberal, and no liberal education which is not technical . . . .*

In Connecticut, despite rising enrollments in vocational or career-oriented education,

there is little danger that the liberal arts will disappear. To be accredited, an institution--even a technical college --must include a liberal arts component in its curriculum, and there is still a preponderance of liberal arts in the total curricular offerings of the state's institutions.

Whether a student selects a liberal arts or an occupational program, or a mix of the two, he should have the opportunity to make the choice; this is one of America's most significant freedoms. The burden is on the system of higher education and the institutions that comprise it to provide a multiplicity of programs that are timely and to support with counseling the individual's capability for making choices.

▶ ACTION RECOMMENDED

57 *That Connecticut seek to offer, within the state's totality of offerings, a blend of academic and occupational learning programs that will serve all learners at all levels of postsecondary instruction in their quest for productive careers and rewarding lives*

CONTINUING EDUCATION

The growth in part-time enrollments and the popularity of courses after 4:00 P.M. and on weekends should be clues enough to institutions that there is an eager audience here for higher education. Customarily thought of as an adult audience, it is becoming more conglomerate all the time. It may include young people who work or simply want to avoid 8:00 A.M. classes, retired people who want to get a degree, women whose education was interrupted while they had their families, members of minority groups who were unable to attend college previously, businessmen who want further education or retraining, and almost any other category of citizen one can name. Some are seeking baccalaureate or associate degrees; others are in noncredit programs.

The report of Resource Group V on *Improvement of Opportunity* estimates that an additional five percent of Connecticut's adult population, or approximately 85,000 persons, would participate in higher education if the present system were more sensitive to their special needs and problems.

The majority of these potential students want quality education carrying credit toward degrees. Attracting them, especially if attendance is made convenient, is proving to be much easier than filling up the full-time undergraduate ranks, as many colleges from California to Connecticut are discovering.

In Connecticut, 35 percent of the 1972-73 enrollment at the state's colleges and universities, public and private, consisted of part-time students, most of them attending courses that met after 4:00 P.M. Southern Connecticut State College, for example, is serving approximately 5,000 part-time students who make up about 40 percent of the college's total student body. Part-time students at the University of Hartford accounted for 57 percent of its 1972-73 enrollment.

The University of Connecticut has a department of Continuing Education for Women offering counseling and noncredit courses making it possible for women to go back to school for a short-term course that will make them more aware of available educational opportunities and potential careers.

The distinction, in fact, between continuing or adult education and the regular curriculum is fading fast. Already many colleges and universities are undergoing a transition in which teaching of part-time and adult students, at a time convenient to them, is becoming an integral function of the institution rather than a small, auxiliary enterprise offered mainly as a public service. This emergence of continuing education as a respectable and integral part of college is related to several national trends:

- Growing recognition by society that education is a lifelong process;
- Rapidly changing technologies that require continual updating of knowledge and skills, and sometimes necessitating career changes;
- The demonstrated willingness of working adults and their employers to pay for courses that meet their needs;
- The re-evaluation of traditional practices of colleges in seeking new clientele.

PROBLEMS TO BE RESOLVED

Too often planning for continuing education programs has a low priority and the students enrolled are accorded second-class status.

A lack of coordination between programs within regions can result in gaps on the one hand or unnecessarily duplicative and competitive programs on the other. The qualifications and compensation of faculty are often lower than those of the permanent full-time faculty.

Frequently continuing education programs are offered on a self-sustaining basis. This

can result in inequities in charges to students, with part-time students--unlike their full-time counterparts--paying full instructional costs. They also may have limited access to many student services. Programs may be limited, for budget and administrative reasons, to offerings of proven success.

To meet the growing demand, institutions must diversify the programs offered, teach at new locations and at different hours. Faculty must be compensated equitably and receive the same credit toward promotion as for any other teaching. Financial aid to deserving and needy adults and part-time students must be provided. The Commission for Higher Education and other constituent units, in preparing enrollment projections and budgets, must continue to take into account the growth in part-time and nontraditional course registration.

▶ ACTIONS RECOMMENDED

58 *That the Subcommittee on Coordination of Planning in conjunction with the Department of Education develop closer coordination between the continuing education programs offered by the colleges and those given by the high schools.*

59 *That the institutions in each of the six regions publish a common directory or catalog describing the continuing education courses available in all institutions within the region and indicating the credits that can be earned by successful completion of each course*

WORK EXPERIENCE

In many career fields the relationship of the educational institution to industries or other institutions which will employ the graduate is important.

Very successful work-study programs have been developed in which employed students work on jobs related to their studies and receive academic credit for demonstrated competency. Classroom requirements may be satisfied on campus or at the place of business, utilizing either travelling professors or authorized instructors from the employer's staff, or by television (see Section VII, Nontraditional Approaches).

An advantage of closer interaction between institutions and business, as well as government and community agencies, is in the vital area of student guidance. Association with knowledgeable practitioners in a field will not only help students form their career goals and understand the relevance of course work, but it may also lead to

revisions in academic programs to achieve a better transition from preparation to practice.

▶ ACTION RECOMMENDED

60 *That the Commission for Higher Education encourage the constituent units to integrate work experience into the curriculum where appropriate and to develop ways to grant academic credit for work experience that is related to program content*

INTERNATIONAL EDUCATION

At present there are relatively few exchanges of faculty or students between Connecticut's institutions of higher education and those in other countries.

Edwin O. Reischauer in *Toward the 21st Century: Education for a Changing World* discusses the effect the speed of change is having on international relationships and the failure of education to keep pace.

> *Before long, humanity will face many grave difficulties that can only be solved on a global scale. For this there must be a much higher degree of understanding and a far greater capacity for cooperation between disparate peoples and nations than exist now. Education... as it is presently conducted in this country--and in every other country in the world...is not moving rapidly enough in the right direction to produce the knowledge about the outside world and the attitudes toward other peoples that may be essential for human survival within a generation or two.*[5]

A number of Connecticut institutions offer a junior year abroad or contract with institutions in other states to include Connecticut students in established programs. Increasing such student and faculty exchanges would be of significant benefit to the individuals and institutions involved and ultimately to the state.

▶ ACTION RECOMMENDED

61 *That the constituent units consider expanding programs in international education, including student and faculty exchanges*

SUBJECTS FOR SPECIAL EMPHASIS

Besides the four aspects of higher education cited for further attention throughout the state--career education, continuing education, work-study and international education--preparation for several

professional fields deserves special attention, including the health professions; veterinary medicine; teacher education; environmental science, and criminal administration.

Health Care. The growth of Medicare and Medicaid, and the changing nature of health-care delivery through the team approach, will expand significantly the demands for health manpower. The Commission for Higher Education and the higher education community --recognizing that community service can be an integral part of a training program-- must continue to work with other organizations involved in improving health care. Among the organizations involved are the Connecticut Hospital Association, the Institute of Health Manpower Resources, the Connecticut Regional Medical Program, and the various professional groups of practitioners.

Veterinary Medicine. There is no school of veterinary medicine in all of New England nor in New Jersey. The New England Board of Higher Education (NEBHE) released a report in August, 1973, citing the urgent need for such a school and recommending establishment of a regional college in Worcester, Massachusetts, adjacent to the Massachusetts Medical School. The University of Connecticut at Storrs and at Farmington are mentioned also as possible locations. The plan calls for joint support by all the New England states according to a cost-sharing formula. The Commission for Higher Education is in close communication with NEBHE on this matter.

Teacher Education. When the Commission for Higher Education was established in 1965, it was given a specific mandate to study teacher education and to make recommendations to the General Assembly in subsequent years. The Commission takes this assignment seriously.

Connecticut developed the first legislation in the country designed to improve the practice teaching experience of beginning teachers through pilot programs (Public Act 1967-761), and teacher education is a major activity of two of the five constituent units: the state colleges and the University of Connecticut.

In 1973, the Joint Committee on Teacher Education of the Commission for Higher Education sponsored the establishment of the Bernard-Engleman Fellowship, named for a former U. S. Commissioner of Education and a former Connecticut Commissioner of Education. Each year individuals will be nominated by the colleges and school systems in Connecticut to serve as fellows. These individuals will act as coordinators for cooperative arrangements among colleges,

school systems and communities within the state. Among their goals will be the identification of programs to improve teaching and the encouragement for colleges and elementary and secondary school systems to pursue these improved practices.

Even when teachers are not in short supply, it is still incumbent upon Connecticut to improve their preparation and performance. Teacher education is one of the major services that the state must offer to assure an educated constituency. There is a need, for example, for more bilingual teachers and counselors at all educational levels. The number currently being graduated in these specialties by Connecticut's institutions is inadequate.

EMERGING NEEDS

Occupational opportunities in both environmental science and criminal administration are expanding. Preparation of personnel for these and many other expanding fields will require interdisciplinary programing and new combinations of experience.

These are only two of a number of examples that could be cited to illustrate the continuing need for higher education to diversify its program offerings in response to changing needs.

▶ ACTIONS RECOMMENDED

62 *That Connecticut continue to participate in planning for a regional veterinary medical school in the northeast and that it share with other states in the support of such a school*

63 *That the institutions preparing teachers continue to develop close relationships with the schools and with significant community groups including those representing minorities*

COMMUNITY SERVICE

Traditionally higher education in America has participated actively in solving society's problems. Connecticut's institutions are no exception. All of the constituent units participate in community service activities, often in conjunction with established agencies or community groups. The programs include noncredit courses and other specially designed educational activities which the college is uniquely qualified to provide and for which there is an unfilled need in the community.

Interested faculty and selected students, for example, may work with community consultants to resolve a problem. In the process, both teaching and learning become more vital

and realistic. In some cases, community service programs are absorbed into the college's regular curriculum, helping to keep it current.

In 1973, two of Connecticut's community service programs, funded through the Commission, were chosen by the National Advisory Council on Extension and Continuing Education as potential national models. They are "Money Management for the Small Businessman," offered jointly by the University of Hartford and Manchester Community College, and "Program for Paraprofessional Trainers," directed by the University of Connecticut's School of Social Work.

▶ ACTIONS RECOMMENDED

64 *That Connecticut's institutions of higher education, in consultation with local citizen groups, assume major responsibility for providing the training component in diversified community service programs, including noncredit courses, that are responsive to unfilled citizen needs*

65 *That a high priority be given to community service programs that will reach children below college age and their parents to inform them and stimulate their interest in higher education and its accessibility in Connecticut*

LONG-RANGE PLANNING

A master plan must include long-range planning at the same time that it copes with short-term changes.

Some institutions have already established long-range planning committees; all postsecondary institutions must be looking at least five to ten years ahead while continuing to provide course offerings that students request now.

It is not enough for postsecondary education to be in a position by 1979 to provide the numbers of business students, social scientists or other graduates which society will need. An attempt must be made to project what each career field may require in the year 2000 and after, and to prepare students now so that they can be productive in the economic, social and political circumstances of the anticipated future.

This type of futures research entails assessing the effects of rapidly changing social, economic and technical circumstances on the validity and usefulness of the educational programs now provided and deciding what adaptations may

be necessary. The question is whether the kind of education offered today--how students learn to reason and adapt to change--will be useful to them during their productive lives.

More research is needed on the relationships among various academic disciplines, the effects of the accelerating information explosion, and ways in which programs can prepare students for the long-range as well as the immediate future.

▶ ACTION RECOMMENDED

66 *That the Governor appoint a commission that will include representatives of the State Labor Department, the State Department of Commerce, the Office of State Planning, the State Department of Education, the higher education community and other cognate groups to determine what kinds of education are required to prepare students for life in the year 2000 and after*

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs

VII. NONTRADITIONAL APPROACHES AND THE EXTERNAL DEGREE

VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Expanded use of instructional technology*
- *Funding of pilot projects*
- *New ways to measure performance*
- *Credit by examination*
- *Credit for work experience and independent learning*
- *Implementation by Board for State Academic Awards*

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VII. NONTRADITIONAL APPROACHES AND THE EXTERNAL DEGREE

The conventional model for higher education has been the four-year residential college attended full-time by students generally ranging in age from 18 to 24. This falls far short of providing equal educational opportunity, however, and pressures for change have been mounting:

- To offer more options and broaden access to higher education;
- To give academic credit for knowledge and skills acquired outside the classroom;
- To make institutions more responsive to needs;
- To improve institutional productivity.

The nation's colleges and universities are demonstrating that they can adapt. Currently they are utilizing the new communications technology to broaden access and they are seeking ways to grant credit on the basis of performance without lowering academic standards or lessening the value of a degree.

The two most critical aspects of nontraditional education are: 1) Developing alternate methods of delivering quality programs at times and places convenient to students on or off campus, and 2) Devising ways to measure each individual's knowledge and skills, irrespective of the means by which the learning was acquired, in order to award academic credit and "external" degrees.

Prime prospects for nontraditional or alternate approaches to higher education are the millions of persons excluded by the time, space, and cost limitations of traditional programs from earning college credits and a degree. The new clientele to be served by instructional television, for example, might include the handicapped, mothers of small children without access to day-care facilities, persons without means of transportation, those working irregular hours, older persons and high school students who want to take college courses.

The nontraditional and part-time students are included in the Commission's

projections of enrollments to 1978-79. The pool from which these students will come is rather sizeable. According to the 1970 census, there are more than 535,000 adults in Connecticut who have completed four years of high school but less than one year of college. In addition, there are 180,000 who have completed at least one year of college but have not completed four years. The problem lies not in the lack of demand -- increasing part-time enrollments testify to this--but in the incapacity of the system to date to make delivery.

As Resource Group V stated in its 1973 report, *Improvement of Opportunity:*

> *...Thousands of Connecticut residents are still denied access to higher education services. Moreover, many residents are penalized by a lack of formal recognition of learning achieved outside the classroom. As a result of these deprivations, the state's manpower is underutilized, and for many individuals, serious inequalities in economic opportunity persist.*

Commission reports to the Governor in 1972 and in 1973--based on studies by citizen committees and entitled *External Degrees and College Credit by Examination and Improvement of Opportunity in Higher Education: Alternative Modes for Earning Undergraduate Degrees and College Credit*--underlined the need and recommended desirable action.

CONNECTICUT'S RESPONSE

The state's response was positive. The General Assembly amended Section 10-330a of the General Statutes (P.A. 73-656) to authorize the establishment of a statewide public agency with degree-granting authority and, in 1973, while the Master Plan was being prepared, the Governor appointed a five-member Board for State Academic Awards. The board of the new constituent unit began immediately to plan for implementation of an external degree program including the provision of guidance services and examinations.

Under the same statute, the Commission for Higher Education, in concert with the state's institutions of higher education, was authorized to study, develop and coordinate the implementation of new methods of awarding undergraduate degrees and college credits and to promulgate regulations to authorize accredited institutions of higher education to award degrees by such new procedures.

TELEVISION AS A LEARNING TOOL

Three years ago, at the invitation of the Commission for Higher Education, 3[illegible] colleges and universities in the state banded together

voluntarily to form the Connecticut Higher Education Television Association (CHETA).

Members recognized the necessity of cooperation if the full potential of television as a part of the total learning package is to be realized. CHETA's discussions and planning sessions have yielded understanding of the problems and established a climate for cooperation in finding solutions but the consortium has never been funded.

Other states have been outpacing Connecticut in the use of technology and the development of external degree programs. In a 1973 national survey of the uses of technology in external course offerings, done for the U.S. Office of Education by the State University of Nebraska (S-U-N) more than half (57%) of the 917 institutions responding indicated that they have or are in the process of developing an external program using educational technology.

On another S-U-N questionnaire answered by 1217 registrars, most colleges and universities (90%) reported awarding credit by examination. Many (81%) grant credit for independent study.

By comparison, instructional use of technology by Connecticut's institutions of higher education is minimal. In a survey made in the fall of 1972, only eight Connecticut institutions--public and independent--indicated that they were using televised instruction. Six had cassette-based courses and nine said they were offering computer-assisted instruction.

Equipment, however, is available on most campuses and cable television in the state is under development. An existing network connecting the Storrs campus with the five University branches, for example, could be expanded to include the community and technical colleges in a single highly flexible resource for televised instruction. The new technologies offer teachers great latitude to develop their own materials, to experiment with new methods of teaching and to reach new audiences.

Furthermore, many Connecticut students entering college are already accustomed to self-study aided by technology. This increases the urgency, particularly for the four-year colleges which are preparing teachers for the elementary and secondary schools, to educate college students in the potential of technological devices for instructional purposes.

CREDIT BY EXAM

Many persons, particularly adults with knowledge and skills acquired on the job, are pressing for a separation of the teaching function from the examining function. They see this as a

necessary step if credits are to be based on a demonstration of knowledge and competence rather than on completion of the requirements of a course of instruction. They are also pressing for the concept that some forms of life experience may be worthy of acceptance by educators in lieu of participation in traditional classroom processes.

While several colleges in the state are attempting to develop satisfactory ways to grant academic credit for work experience, there is no uniform policy for awarding credit based on College Level Examination Program (CLEP) scores or other testing instruments.

Lessening of the time spent in a formal classroom by those to whom nontraditional approaches appeal does not imply a lowering of standards. Colleges and universities that offer alternate modes of instruction or award "external" degrees are expected to maintain the same academic standards that are associated with the conventional college curriculum.

HURDLES TO OVERCOME

While there are undoubltedly other deterrents to the development of new technological approaches, the major one is unquestionably lack of financial support. Without adequate funding, faculty members interested in experimenting with various uses of technology as a teaching tool can attempt only piecemeal projects. Budgets do not allow them to undertake significant departures from traditional or inadequate modes of instruction, and CHETA, the 30-college consortium, has no funds.

Responses to the S-U-N survey indicated that 85 percent of the institutions in the United States with external degree programs depend on student tuition to supply some or all of the funding, and 64 percent rely on their state government for at least partial funding.

Connecticut has no established policy regarding tuition charges for nontraditional programs. The Board for State Academic Awards, however, plans to develop a schedule of costs to students for credits by examination and for other special services required, such as academic and career counseling.

NEXT STEP

The Commission for Higher Education, in cooperation with the Board for State Academic Awards, will continue in its catalytic role of encouraging Connecticut's institutions to start pilot projects. Approaches that prove successful at one institution will be shared with others in the state. The awarding of external

degrees will be achieved gradually over the next few years.

Two factors are critical if the intent of P.A. 73-656--to make higher education available to a larger clientele and to improve institutional productivity--is to be realized. The factors are active participation of the existing institutions and adequate funding. The funding requested by the Board for State Academic Awards for 1974-75 of $118,272 will need to be doubled by the end of the five-year period.

▶ACTIONS RECOMMENDED

67 *That the Board for State Academic Awards be funded at a level which will permit it to carry on activities leading to the granting of undergraduate credits and degrees on the basis of examinations*

68 *That the Commission for Higher Education be authorized to award contracts to any postsecondary institution(s) in the state for pilot programs designed to develop and stimulate the use of nontraditional modes of instruction and to increase institutional productivity through the utilization of television, tape, radio and other technological aids to learning*

69 *That each contract will include provision for independent evaluation of results*

70 *That the Commission for Higher Education issue regulations for licensure of nontraditional undergraduate degree programs conducted by accredited institutions*

71 *That the Commission for Higher Education, CHETA, and the Board for State Academic Awards seek and encourage cooperative arrangements with agencies in neighboring states for instructional uses of technology*

72 *That the Commission for Higher Education encourage the public and private colleges in each planning region to establish counseling centers for the explicit purpose of advising interested individuals with respect to the available programs and services, including nontraditional*

73 *That changes in the policy and administration of financial aid be made concurrently with the expansion of opportunities to earn credits and degrees by nontraditional means so that part-time and adult students may qualify for necessary assistance*

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree

VIII. TRANSFER

IX. Equal Opportunity
X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Policies to facilitate student mobility*
- *Guaranteed places for community college graduates*
- *Transfer practices to be widely publicized*
- *Institutional agreements on credit by exam*
- *SCP to study movement of transfer students*

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VIII. TRANSFER

During the past ten years the transfer of students among institutions and programs has become a prominent aspect of American higher education, attributable in large part to the proliferation of two-year community colleges.

In the fall of 1972 in Connecticut, for example, transfer students accounted for roughly 30 percent of the new undergraduate enrollments in public four-year institutions. This "transfer boom" has brought with it a host of complex problems touching fundamental educational issues.

QUESTIONS RAISED BY TRANSFER

Transfer problems usually come to the public's attention as individual grievances which, at least in the view of the aggrieved, are susceptible of easy solution. On the other hand, representatives of institutions which are called upon to accept an increasing number of transfer students may perceive the same situation as raising difficult and quite fundamental policy problems.

From the receiving institution's viewpoint, to yield on the regulations for one individual poses a threat to the integrity of the educational enterprise. Students naturally want to transfer all their credits, while receiving institutions prefer to scrutinize each credit individually. Students may claim that receiving institutions are arbitrary, even capricious, in imposing "lower-division" general education requirements on "upper division" transfer students, while the institutions assert that their special requirements must be met by <u>all</u> students if the degree which the institution awards is to retain its character and significance. Transfer students may complain that they are placed at a disadvantage by receiving institutions in such matters as the selection of courses and the distribution of financial aid, while the institutions assert their prior obligation to their "native" students.

There is a strong tendency among observers to side with

the student who is trying to transfer. In the first place, the student is usually speaking about a specific situation. Secondly, probably only the more blatant examples of "injustice" reach the ear of the public. A third factor affecting public sentiment is a growing conviction that rigidity in transfer matters is inconsistent with the diversity and flexibility in educational policies, procedures and standards that many persons believe to be desirable.

Understandably taxpayers whose dollars support a network of public institutions that is supposed to provide multiple entries to higher education are distressed to learn that once entry has been gained further progress can be blocked or seriously impeded. The concern that institutions, particularly those offering upper division programs, may not be sufficiently receptive to transfer students is legitimate, although changes are occurring.

The role of the faculty is critical in resolving transfer problems. Recommendations in the Plan are based on the assumption that institutions will involve in policy-making decisions the faculty members who will be teaching and evaluating transfer students.

SETTING THE PATTERN

The establishment of the branches of the University was the first recognition in Connecticut that accessibility and economy could be improved by providing lower-division instruction for commuting students at convenient locations across the state.

The development of regional community colleges was a further step in increasing student diversity and mobility. Other resources are the two-year state technical colleges and the four-year state colleges. By providing institutions of different sizes, types, locations and educational objectives, the state has sought to answer the question, "Where can I enter higher education in Connecticut?" Now it must answer the next question, namely, "Now that I am in, how do I get from this step to the next?"

POSSIBLE RESPONSES

The two extremes are:

1) To give the transfer student overriding priority to enter any institution and program he chooses, or

2) To make him compete for existing places on the basis of his ability and achievements, just as applicants to the freshman class do.

The former might be considered seriously if educators were convinced that it is good public policy to compel most or eventually all students to come into the upper division through the transfer route. Evidence so far does not justify discriminating against the native student in favor of the transfer.

The second policy essentially has been in effect for many years but it cannot continue to be supported in a public system of higher education in which the two-year institutions are viewed as partners with senior colleges and universities in the delivery of postsecondary education.

Resource Group VI in its report on the *Transfer of Students Between Institutions and Programs* dealt constructively with the key issues. This Plan incorporates several of their recommendations and indicates a number of ways in which institutions can assist transfer students to progress with minimum delays through the various levels of the state's system of higher education.

Recommendations in the Plan also may help the large numbers not yet in the system but desiring entry at an appropriate level. Among them are veterans, housewives seeking to re-enter the labor market through additional education, employed persons wishing to prepare for advancement and individuals displaced by social change or technology and seeking new skills.

In addition, transfer policies must insure equitable treatment for students who wish to transfer from one four-year institution to another.

GUARANTEED TRANSFER

In practice there is already considerable movement by students from one institution to another, especially from the regional community colleges into the public four-year colleges and the University. Until recently, however, crowded conditions on public campuses have required that space be rationed and places were not always available. Even when spaces are available in the system, it is not possible at present to guarantee that a student will be able to enter the program or even the institution of his choice.

In December 1972, the board of trustees of Connecticut's state colleges approved a resolution which guarantees admission of all qualified graduates of regional community colleges to a state college. Although the University was

not a party to the resolution, it also extends priority to applicants who have completed a transfer program at one of the regional community colleges and admits all those who are recommended by the sending institution. Also, as has always been the case, a student who successfully completes two years at one of the University branches can move directly into the junior year at the University at Storrs. Transfer policies between the two-year branches of the University of Connecticut and the state colleges, and between the state technical colleges and the other units in the system are less clearly defined.

Furthermore, although the Commission for Higher Education periodically publishes a guidebook, *College Transfer in Connecticut*, neither students nor the public are as fully informed as they should be regarding present transfer policies and how they are implemented.

▶ ACTIONS RECOMMENDED

74 *That graduates of transfer programs in a community college be guaranteed a place in one of the public, four-year institutions in Connecticut and that a definite number of places be reserved for them*

75 *That the public and independent institutions, in cooperation with the Commission for Higher Education, develop transfer policies that are equitable to students and that facilitate mobility between institutions*

76 *That faculty members be involved extensively in the development of transfer policies*

77 *That the requirements for admission to upper-division programs be stated explicitly and communicated to students in two-year programs during their first semester*

78 *That the terms of admission to upper-division programs and the transfer credits to be granted be reviewed with each transfer student at the time of acceptance*

79 *That the Commission for Higher Education publicize transfer policies and practices to the general public as well as to counselors and students*

ACADEMIC CREDIT

Even when requirements for acceptance at the junior level are met, loss of some transfer credit is still a hazard. Opinions among educators differ

as to how well prepared community college students are for upper-division work.

The principal issue is the granting of credit for courses in which the grade of "D" was assigned by the sending college. Grades, however, are not a precise enough measure of academic performance to warrant the categorical exclusion of "D's" for credit accumulation purposes. This does not imply that institutions should grant credit for poor academic work. Rather the question is whether an institution should assume arbitrarily that marginal work at another institution is necessarily of lower quality than marginal performance by its own students.

A closely related question is whether a student with a "D" should be allowed to enter an advanced course in the same subject. This problem cannot be solved by withholding credit. The student needs and deserves guidance from the receiving institution. If it is feared that a transfer student who received a "D" in introductory chemistry will falter in an advanced chemistry course, the student should be so advised.

CREDIT BY EXAM

Another problem is that community colleges currently grant academic credit in transfer curricula for satisfactory performance on some College Level Examination Program (CLEP) examinations.

It may be argued that a community college graduate who has received credit by examination within the context of a transfer curriculum should not be denied that credit by a receiving institution. That argument is endorsed as a general proposition but concern exists about the difficulty of applying it to specific cases.

The educational community in Connecticut has not reached agreement on the appropriate interpretation of performance on CLEP and other standard examinations.

▶ ACTION RECOMMENDED

80 *That the Subcommittee on Coordination of Planning of the Commission for Higher Education in concert with the newly established State Board of Academic Awards formulate by the first biennial revision of the Master Plan, an agreement among institutions of higher education in Connecticut on transfer credit to be allowed for standardized examinations such as CLEP and for other less conventional methods of granting*

college credit

DEGREE REQUIREMENTS

The principal issues raised in discussions on general education and distribution requirements are those of institutional autonomy and integrity. This Plan is not intended to compromise the right of an institution to determine its own curriculum. On the other hand, institutions must recognize that "general education" requirements can be met through various curricular options.

For transfer students who have not had an opportunity to meet specific general education or course distribution requirements, receiving institutions should recognize the validity and suitability of programs which are different in detail from their own but which may be equivalent. Incoming students deserve to be evaluated in the context of the programs from which they have emerged rather than exclusively in terms of the programs which the students are entering. Such an evaluation procedure, which not only assesses a student's competence to meet the demands of a new program but also respects his prior educational experience, is particularly appropriate in the case of transfer students from regional community colleges, where the emphasis on general education in transfer curricula is substantial.

In the technical colleges, the reverse is the case, with major emphasis on technical and less on general education. Senior institutions must be flexible enough to accommodate transfer students from a variety of educational backgrounds.

▶ ACTION RECOMMENDED

81 *That all institutions review their general education and course distribution requirements to insure that they are not having an unnecessarily adverse effect on transfer students*

PREVENTING TRANSFER SHOCK

Often transfer students suffer a sudden drop in academic performance during their first term at the receiving institution. Usually they recover their standing in the second term, which leads to the conclusion that problems of initial adjustment underlie the academic difficulties.

Unrealistic expectations of students, due to faulty communication, appear to be a factor in the temporary slump. A transfer student may enjoy a momentary sense of pleasure at being designated a "junior"

upon entry into a receiving institution, for example, and then experience the frustration of discovering that junior status does not necessarily mean that he will receive a bachelor's degree after two more years of study. Counseling and other supportive services are important in orienting transfer students to their new academic environment.

▶ ACTIONS RECOMMENDED

82 *That the Subcommittee on Coordination of Planning of the Commission for Higher Education assume the following responsibilities:*

a) To examine the I/S data on student transfers into and out of institutions of higher education in Connecticut for the purpose of determining trends and identifying problems;

b) To report annually to the Commission on the trends in transfer, with projections of the number of spaces which should be reserved;

c) To call to the attention of institutions and their boards information that will assist them in reviewing their transfer policies and procedures;

d) To investigate problems of articulation between proprietary schools and other post-secondary institutions;

e) To seek to resolve problems and to answer questions concerning transfer that are brought to the SCP's attention

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer

IX. EQUAL OPPORTUNITY

X. Finance
XI. Statewide Information System
XII. Topics for Future Study
XIII. Agenda for Action: Where and By Whom

- *Broadened admissions criteria*
- *Consideration of noncognitive skills*
- *Improved supportive services*
- *Additional financial assistance*
- *Affirmative action for minorities and women*
- *Goals, not quotas*
- *Cooperative day-care facilities*

IX. EQUAL OPPORTUNITY

Equal opportunity is one of the goals adopted in 1970 by the public system of higher education in Connecticut. This goal, as amended in the Master Plan, is:

> *To insure that no student in Connecticut who is qualified or qualifiable and who seeks higher education be denied the opportunity for such education because of age, sex, or social, ethnic, or economic situation.*

While progress has been made since 1970, the goal of equal opportunity has not been realized. Whether equality becomes a fact in higher education depends on both social willingness and institutional responsiveness.

The willingness of society to support efforts toward equality in higher education is difficult to measure. Certainly there is growing recognition of past discrimination and a desire to remove ethnic, social, economic and sexual barriers.

Institutional responsiveness can be measured on two bases: access and support. With the growth of low-cost, open-admissions community colleges, access to postsecondary education for the economically and educationally disadvantaged has improved, but these institutions cannot be the single entry point. Access is limited unless it includes opportunity in upper-division, graduate, and professional schools. Support, both financial and academic, is also a vital dimension of equal opportunity. Supportive services in the form of tutoring and counseling by faculty and staff members who relate well to minority students and who can serve as role models for them is crucial to the students' success in college. While Connecticut has made significant strides, there is still too little of both access and support.

EXTENDING OPPORTUNITIES

As higher education begins to meet more effectively the needs of its most visibly unserved or poorly served, it is likely

that all of its constituents will be better served. At present, Connecticut's minority population -- primarily Black and Spanish-speaking -- is under-represented in the postsecondary institutions and, consequently, is underutilized as a human resource.

In the state as a whole, racial minorities number 196,251 or 6.5 percent of the total population. For the 18-24 age group the percentage is slightly higher, 7.5 percent. This minority population is concentrated in eight cities. If the challenge of equal opportunity is to be met, it is crucial that proportionate numbers of minority staff and students be represented in colleges in the eight urban locations. While increases in minority enrollment have occurred within most educational units, the overall percentage of full-time minority students gained only 1.2 percentage point -- from 4.9 to 6.1 -- between 1970 and 1972.

LIMITATIONS OF ACCESS

No single factor can account for the slow pace in increasing minority enrollments. Central to the problem is the fact that many minority students receive neither the essential educational background -- gained in large measure through sound elementary and secondary educational experiences -- nor proper guidance. As colleges and universities improve the preparation of elementary and secondary school administrators and teachers, and increase the number of bilingual teachers, they will contribute to better preparation of all students. But until quality is equal in all schools, colleges must not discriminate against some students because of their deficient preparation.

RESTRICTIVE ADMISSIONS POLICIES

Admissions policies vary widely among institutions in Connecticut. Some Connecticut institutions, like many colleges and universities across the country, have adopted "open admissions" practices or have changed admissions criteria to correct long-standing inequities. The addition of new criteria for admissions does not mean that institutions are "lowering standards." Many educators agree that the important standards to maintain are the standards for graduation, rather than the criteria for admissions.

Traditionally, college admissions have been based primarily on objective measurements of academic ability. Rank in class is widely accepted as the best single predictor of potential for academic success in college; and rank in class, when combined with aptitude test scores, is considered even more reliable.

The American College Testing Program (ACT) in a booklet entitled *Highlights* has said

of standardized aptitude tests:

> *Any use of the ACT tests (or any other test now in existence) which equates a test score with 'potential' or 'innate ability' is inappropriate and especially unfair to students whose education or social background is different from the prevailing norm.*

Because standardized predictive measures discriminate against students whose educational and social backgrounds differ from the accepted norm, different measures must be employed to offset this discrimination. In addition to the cognitive measures of rank in class and standardized tests, noncognitive measures should be used as corollary indices of potential for academic success. Personal recommendations, demonstrated leadership among peers, creative talents, are the types of noncognitive criteria which might be used.

Noncognitive measures are not easily quantified and must be, to a large degree, subjective. Nevertheless, they do provide a broader perspective of the individual and make possible a more heterogeneous student body.

▶ ACTION RECOMMENDED

83 *That each public board of trustees require the institutions under its jurisdiction to review current admissions policies to determine what criteria other than traditional quanitative measures are being used and, if only quanitative measures are used, to develop additional criteria for admissions.*

TALENT SEARCH PROGRAMS

Upward Bound and Talent Search are two examples of successful approaches to bridging the experiential gulf between secondary and postsecondary education. The Connecticut Talent Assistance Cooperative (CONNTAC) is designed to help students who have an interest in and the potential for attaining a postsecondary education but who need special assistance in gaining entrance to colleges or universities. While a number of institutions have made use of CONNTAC's referral service, more expanded and more numerous cooperative arrangements would prove extremely beneficial in assisting high schools and colleges in meeting the needs of the educationally disadvantaged.

Specific college-school cooperative arrangements might include the following:

- Providing detailed information concerning academic curricula, institutional and program requirements, and

financial support available at institutions of higher education.

- Helping students and parents clarify immediate and future vocational and educational goals.

- Providing counseling resources for assisting and coordinating the efforts of higher education institutions to admit poor and educationally disadvantaged students.

▶ ACTION RECOMMENDED

84 *That all institutions of higher education in the state increase their efforts to recruit minority students through their own admissions offices and through the Connecticut Talent Assistance Cooperative*

SUPPORTIVE SERVICES NECESSARY

In many, but not all cases, students admitted by nontraditional admission criteria need supportive services. While in the past it was commonly accepted that classroom instruction alone served the colleges' educational function, there is growing recognition that institutions should provide supportive services to students, particularly disadvantaged students. The scope of services needed is wide, ranging from remedial instruction, tutorials and counseling, to health and child care.

Many disadvantaged students have little knowledge of the campus life. In many cases these students have never known personally anyone who attended college. Supportive programs enrich the students' academic and cultural life, increasing their self-confidence and helping them to feel a part of the collegiate community.

NEW PROGRAMS NEEDED

Although there are numerous problems involved in designing supportive programs, many models have proved successful in assisting disadvantaged students. Academic supportive programs should be based on the needs of students as determined by their previous, and often deficient, educational experiences.

The Equal Opportunity Resource Group recommended supportive programs in the following areas:

- Counseling, tutoring, and other educational services, including special summer programs to remedy the students' academic deficiencies.

- Career guidance, placement or other student services to encourage the students' continuance or to facilitate their re-entrance into

higher education programs

- Counseling and encouraging students to identify their educational objectives in undertaking programs of undergraduate, graduate or other professional education.

In developing new supportive programs, or strengthening existing ones, it is important that all supportive programs be designed as an integral part of the college offering.

Finally, if supportive programs are to be successful in meeting the needs of students, funding for the programs must be adequate. Many institutions have made commendable progress in providing supportive services within the present appropriations. Other institutions have been unable to make available sufficient fiscal resources. Funds must be granted to help improve existing programs and to initiate new efforts.

Elsewhere in this Plan, it is recommended that the Comission for Higher Education have available to it, for a variety of purposes, an amount equal to one percent of the operating budget of the system. This fund would be a source for grants to institutions to strengthen their supportive services.

▶ ACTIONS RECOMMENDED

85 *That the Commission for Higher Education make grants to institutions from its discretionary funds to augment and expand supportive services such as counseling, tutoring, career guidance and placement*

86 *That such grants be made according to criteria established jointly by the Commission for Higher Education and the governing boards*

87 *That there be minority representation on the committee that screens proposals and recommends the distribution of funds*

FINANCIAL BARRIERS

Increased recruitment, flexible admissions policies, and supportive services will not be enough to substantially increase minority enrollments. Many students who gain admission will be unable to attend because of inability to meet the rising cost of higher education. In April 1973, a survey of high school seniors conducted by the State Scholarship Commission indicated that approximately 1,700 (of approximately 44,000) would not continue in postsecondary education because of financial barriers.

Although costs vary considerably among institutions, in

many cases even the least expensive college is economically inaccessible to potential students from low-income families. According to a national study by the College Entrance Examination Board in 1970, of persons from 18-to-24 years old, those from families earning over $15,000 were five times more likely to be enrolled in college than those from families where income was $3,000 or less. Tuition and living expenses have increased considerably since 1970 and it is unlikely that the statistics would be more encouraging today.

FINANCIAL ASSISTANCE: AN URGENT NEED

Financial support, in various forms, is essential to the achievement of equal opportunity. The magnitude of the problem was expressed in the Commission for Higher Education's *Proposed Student Financial Assistance Budget for 1973-74* which noted a "... steady increase in the number of students seeking student financial assistance. Except for the two-year public colleges, we find few instances where less than 20 percent of the students at an institution are seeking financial assistance; we have at least one known instance where more than half of the students are seeking financial assistance." The percentages of students referred to in the above quotation do not include the many Connecticut students who take loans.

A full discussion of student financial assistance appears in Section X on finance. That section notes that under present guidelines for awarding student financial assistance, the primary qualification is academic ability. Because minority students are often academically as well as financially disadvantaged, their needs are not met under the present major student financial aid program. The first objective of the financial assistance program should be to help the student least able to pay for higher education.

By 1978-79, the total need for student financial assistance is estimated to be $15.5 million. At the present level of support, Connecticut will be short $10 million.

▶ ACTIONS RECOMMENDED

88 *That the policies for the major, state-supported program of student financial assistance be based primarily on financial need*

89 *That the General Assembly provide additional funding for student financial assistance to enable increased numbers of citizens to pursue postsecondary education*

MINORITIES ON FACULTY AND STAFF

As with the student body, the

percentage of minorities on the faculty and staff of the state's colleges and universities is not proportionate to the representation in the total population. This situation is due to a lack of equal opportunity in the pursuit of academic careers. Although there has been an increase in the actual number of minority faculty and administrators, their percentage of positions remains disproportionate as shown in the following table:

TABLE 10

MINORITY EMPLOYEES IN HIGHER EDUCATION
IN CONNECTICUT, FALL 1972

	Nonprofessional %	Administrative %	Full-Time Faculty %
Univ. of Connecticut	7.7	9.0	3.0
State Colleges	7.8	7.0	4.9
Regional Community Colleges	7.3	10.1	5.5
Technical Colleges	8.8	0.0	1.3
TOTAL PUBLIC	7.7	8.4	4.0
Independent Colleges	18.6	7.8	5.1
GRAND TOTAL	13.7	8.0	4.6

*Excluding U.S. Coast Guard Academy

Source: CHE Research Department

Underrepresentation of minority groups in academic positions results in an educational setting that is undesirable for all students, but especially for minority students. Certainly the academic community should strive to be a model for society rather than a mirror of its social ills. Examples of successful minority persons are very important for minority students who need models to emulate and sources of motivation. Furthermore, minority educators are best qualified for directing talented minority students into professional careers and into leadership roles.

HIRING PRACTICES TEND TO EXCLUDE

Commitment to recruiting minorities for professional staff positions has increased in

recent years, yet relatively little progress has been made. The customary way in which academic positions are filled contributed to this situation. Recruitment often proceeds through a "grapevine" of acquaintances and professional colleagues at sister institutions and tends to overlook, if not exclude, minorities. The process may not be one of conscious discrimination, but the effects are the same as if it were.

In 1970, Connecticut identified a statewide agency for recruiting faculty and administrators. The Connecticut Faculty Talent Search Program (CONNFACTS), the only referral service of its kind in the nation, has sought to initiate and/or improve representation of minority teachers and administrators, primarily Blacks and Puerto Ricans, in higher education in Connecticut. While CONNFACTS has been moderately successful -- having made 30 direct placements as well as numerous indirect ones -- wider and more regular use of the service could be made. At the present time there are more than 600 qualified scholars and administrators in all fields on file in the "talent bank."

AFFIRMATIVE ACTION CAN RIGHT THE BALANCE

While higher education institutions may not disallow the involvement of minorities, neither, in some cases, do they actively seek the participation of minorities at all levels. This stance of "benign neutrality" is neither defensible nor tolerable.

Through goals and timetables, internal reporting systems, revised policies for employment and promotion, as well as other programs, higher education must take action to eliminate the effects of past discrimination and to correct current practices which tend to discriminate.

Implementation of corrective action raises certain problems. Colleges and universities are unique institutions with narrowly defined and specific employment needs. For this reason objective numerical formula, such as quotas, are not satisfactory for recruitment and placement. Goals, because of their greater flexibility and adaptability to varying situations, are preferable to quotas for colleges and universities.

The U.S. Department of Health, Education and Welfare's definition of goals relating to the employment of women and minorities is a good one:

> *Goals are projected levels of achievement resulting from an analysis of deficiencies and what can reasonably remedy them, given the availability of qualified minorities and*

women and the expected turnover in work force. However, goals without meaningful and Affirmative Action are useless. Affirmative Action implies and should demand that institutions take positive and specific 'efforts to recruit employ, and promote qualified members of groups formerly excluded, even if that exclusion cannot be traced to particular discriminating action on the part of the employer.' 6

▶ ACTIONS RECOMMENDED

90 *That any public institution which is not subject to Executive Order 11246 prepare an affirmative action plan consistent with the federal guidelines and according to state guidelines defined by the Commission for Higher Education and submit the plan to its board of trustees and to the Commission*

91 *That the Commission for Higher Education and the boards of trustees exert efforts and make commitments to increase the numbers of minorities and women on their staffs*

WOMEN IN HIGHER EDUCATION

It cannot be denied that higher education has made progress in the education of women:

> *Yale, in 1783, examined Lucinda Foote, age twelve, and found her 'fully qualified except in regard to sex, to be received as a pupil of the Freshman class of Yale University.'* 7

Yale and other traditionally male institutions are now admitting women students and few public institutions ever had sex restrictions.

Nationally, the college attendance rates for men are higher than for women. For Connecticut, too, full-time enrollments of students in public and private institutions of higher education in 1972-73 show that men outnumber women at all three levels:

Full-time Enrollments
Public and Independent Institutions

1972-73	Men	Women
Grad.	6,101	4,697
4-Yr.	32,308	27,897
2-Yr.	9,000	5,185

In the traditionally teacher-training oriented state colleges women outnumber men -- 24,211 to 13,822 (total enrollment, fall 1973) -- at both the undergraduate and graduate levels. This number of women students suggests that these individuals are continuing to follow female vocations like teaching.

ADMISSIONS BARRIERS

It is apparent that some of the state's higher education institutions have admissions quotas for women. Admissions quotas based on sex are illegal. If institutions having sex quotas fail to voluntarily eliminate them, it is likely that they will be forced to do so by HEW's Office for Civil Rights. Two groups of women have special problems: First, there is the group of "returnees," persons with some previous higher education, who wish to re-enter and complete a program previously started. The second group has no previous experience in higher education and includes many housewives and women in ill-paid, entry-level jobs. For entering or improving employment, these women need skills and vocational training.

UNEQUAL SERVICES AND FACILITIES

In many cases, following admission based on higher standards than those applied to men, women receive unequal access to institutional services and facilities. The athletic scholarship programs of many institutions are discriminatory. One residential institution in the state once enrolled over 10,000 women students, but the infirmary had no gynecologist on staff (though there was a bone specialist for the athletes). The federal laws prohibiting sex discrimination in admissions also call for the elimination of all sex segregated facilities (excluding living facilities) and equal use of facilities based on sex.

▶ ACTION RECOMMENDED

92 *That all institutions of higher education comply with federal laws (especially Title IX of the 1972 Higher Education Act) regarding elimination of discrimination on the basis of sex*

CHILD CARE

One of the first recommendations made by a committee appointed by the Commission for Higher Education to study the status of women in higher education in Connecticut was that "day-care programs be available for those who need them in order to maximize the potential enrollment of women." The committee also expressed its belief that child care was "essential" and that women are denied opportunity when child-care facilities are not available.

As more women with children participate in higher education as students, faculty and staff members, requests for convenient, low-cost child care will increase. In a period of economic stringency, some college administrators consider child care a peripheral, non-essential service and give

it a low priority for funding. At some institutions this argument has been overcome by establishing cooperative child-care centers supported and operated by the users. The laboratory facets of academic programs provide child-care services on some campuses. In some locations, students and staff have been able to use existing child-care facilities in the community.

Methods of providing child care have generated heated debate. There is controversy about what activities should be included in the program, the criteria for certifying personnel, the appropriate age for attendance, and, generally, about the impact of child care on the developing child. The question how best to provide child care must be decided by the users of the service in consultation with knowledgeable professionals.

▶ ACTIONS RECOMMENDED

93 *That each public institution provide child-care services for children of faculty, staff and students, in cooperation with community day-care and nursery school programs when possible, and that costs of such programs be subsidized in part by the state and by graduated charges to users based on ability to pay*

EVIDENCE OF SEX DISCRIMINATION

A recent publication of the U.S. Department of Health, Education, and Welfare, Office for Civil Rights, states that investigations have shown that "women are frequently the targets of discrimination." According to the report women are:

- *Paid less than men for doing the same work*
- *Restricted to jobs arbitrarily classified for women and which pay less than jobs reserved for men*
- *Assumed to be less competent than men and denied equal opportunities to demonstrate their abilities*
- *Denied on-the-job training which would qualify them for advancement although training is available to men*
- *Required to demonstrate higher levels of education, experience and skill than would be required for men for the same position*

Current hiring practices which exclude racial minorities also exclude women. Again, these practices are illegal and institutions must begin to make efforts to recruit women for their professional staffs. Although no counterpart to the CONNFACTS program exists

to assist in the recruitment of women, there is a regional agency which would be able to assist institutions in affirmative action searches. Higher Education Resource Service (HERS) in Providence, Rhode Island maintains a substantial inventory of women administrators and scholars in many disciplines. Institutions in Connecticut should take advantage of this service.

▶ ACTION RECOMMENDED

94 *That the I/S System compile data by sex to facilitate monitoring of affirmative action plans*

REMOVING SEX BIAS FROM THE CURRICULUM

American higher education has contributed to the perpetuation of sexual stereotyping. Counseling which advises women to enter traditionally "feminine" careers and directs men to "masculine" fields, renders a disservice to all. Society as a whole will benefit from more flexible and open academic and career counseling.

Another means of breaking down stereotypes and achieving recognition of the accomplishments of women is through curricular reform. The contributions of women are sadly neglected in most disciplines. Bernice Sandler, Executive Associate, American Association of Colleges has noted that:

> *...in one study of the 27 leading textbooks used in college level American history courses, women were virtually absent: no book devotes more than two percent of its pages to women: one had only 5/100 of one percent of its pages to women. In many books Harriet Beecher Stowe and Eleanor Roosevelt are not even mentioned* [8]

▶ ACTIONS RECOMMENDED

95 *That all college and university curricula incorporate the contributions and roles of women and that separate courses be organized about the central contributions of women to society*

96 *That appropriate administrative and academic officers of each institution improve and update counseling for women*

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity

X. FINANCE

XI. Statewide Information System (I/S)
XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *Support to reach 75th percentile among 50 states*
- *Funding to match Connecticut's capacity*
- *New student-aid grant program*
- *Grants to vary with family income*
- *Support for part-time students to be consistent*
- *Abolishing of pre-audit controls*
- *Budget preparation to begin March 1*
- *Funding for P. A. 73-551 to reach $4.5 million in 1974-75*

X. FINANCE

The extent to which Connecticut achieves the goals and aspirations set forth in this five-year Master Plan will depend largely upon the financial support provided. How adequately does Connecticut support higher education now and what level of support will be required in the future?

As enrollments in the public sector tripled during the 1960's, appropriations for public higher education increased significantly. Institutional operating expenditures from state general fund appropriations rose in ten years from $20.8 million in 1963-64 to $111.1 million in 1972-73.

In recent years, however, support has faltered. In analyzing the trend, it is important that three terms be understood clearly:

- Net Appropriation. This term refers to the difference between the state general fund appropriation for operating budgets and the tuition collected and deposited in the general fund. Tuition revenues in Connecticut are not earmarked for education purposes; like taxes, they are deposited in the general fund. In 1972-73, for example, $18 million in tuition revenue was deposited in the general fund, reducing the gross appropriation of $111.1 million to a net appropriation of only $93 million.

- Constant Dollars. Real growth in expenditures can be measured only by dollars of constant purchasing power. To allow for the effects of inflation, it is necessary to convert "current" dollars to "constant" dollars by using the Consumer Price Index, in this case converted to 1965=100.

- Per Full-Time Equivalent (FTE) Support. Support is commonly measured in dollars per student. The most useful and conventional measure is dollars per full-time equivalent student, i.e., full-time students plus .4 times the number of part-time students.

While the official or gross appropriation in current dollars

has continued to increase--though at a decreasing rate--the net appropriation has leveled off (see Table 11). If one converts

TABLE 11

NET EXPENDITURES* FROM GENERAL FUND, 1968-73

Year	Gen. Fd. Expend. (000)	Tuition (000)	Net Expend.
1968-69	$60,412	$1,167	$59,245
1969-70	71,400	1,763	69,637
1970-71	84,543	3,295	81,248
1971-72	90,156	9,396	80,760
1972-73	93,887	17,633	76,254
CHE rec. 1973-74	105,943	17,633	88,310

* For all Connecticut public units except CHE and Health Center

to constant dollars to allow for inflation the net appropriation--the state's actual contribution to the teaching units--has declined since 1970-71. Since total enrollment in Connecticut is still rising, the decline in real per-student support since 1970 has been sharp.

RELATIONSHIP TO QUALITY

Per-student expenditure is a nationally used indicator of quality. Admittedly, quality is a difficult factor to measure but there is unquestionably a relationship between what a state spends on higher education and the quality of education that its public institutions offer. Poor states--those with low average income per capita and therefore low ability to finance higher education--may have to choose between high enrollments among the college-age population and high expenditures per FTE student. Some may have to forego both.

Connecticut, with one of the highest per capita incomes in the nation, does not have to make this choice. It has the capacity to achieve both high participation and a level of support per FTE student that will insure quality programs and operation.

MEANINGFUL COMPARISONS

Definitive comparative data are scarce due to the differences among institutions and states in their methods of funding, budgeting and reporting. Trends, however, are discernible from information generated by the various data systems and comparisons between institutions and between states, with some qualification, are the most valid indicators of existing support levels.

Expenditures tend to be more reliable than appropriations as a basis for comparisons, since reports of appropriations do not always recognize differences in practices of collecting and crediting tuition and may not identify the institutions that receive some local and municipal as well as state support.

Resource Group VIII, therefore, analyzed expenditures for Connecticut's public institutions of higher education in two ways:

- By comparison with the other 49 states on such measures as expenditures per capita, per person of college age, per $1,000 of personal income and per FTE student, and
- By relating instructional expenditures of Connecticut's public institutions to similar expenditures at peer institutions, designated as such by the Connecticut institutions and surveyed by Resource Group VIII.

On each of these measures, Connecticut ranks well below the average, raising serious questions about the adequacy of current levels of expenditure and support for higher education.

INTERSTATE COMPARISONS

Data used are those published in *The Journal of Higher Education*, June, 1972, in a study of "Expenditures for Public Institutions of Higher Education, 1969-70" done by Edric A. Weld, Jr., assistant professor of economics at Cleveland State University. The statistics are based on information collected from the 50 states by the U. S. Office of Education, and, as Weld points out, are subject to some differences in method of funding and reporting. They are the best national comparisons presently available.

Table 12 (page 112) summarizes these interstate comparisons. Connecticut ranks 47th in expenditures per capita, 47th in expenditures per person of college age, 48th in expenditures per $1,000 of personal income and 33rd in expenditures per FTE student.

At least two factors contribute to these low ranks--a strong tradition of private higher education and a large net out-migration of students--but neither is sufficient justification for

Connecticut's failure to support public higher education as well as the majority of states do. As Weld points out:

> *Several states, such as... Connecticut rank both in the lowest quintile in current resources provided per FTE student and in the lowest quintile in expenditure relative to the number of persons of college age in the state. Unless public colleges and universities in these states can purchase resources at unusually low cost, it is possible that students are not being provided with the same amounts of educational resources in these states that would be considered necessary elsewhere in the country, or that citizens of these states are being offered considerably less public higher education than would be provided by the typical state university system.*[9]

TABLE 12

EXPENDITURES FOR CURRENT OPERATIONS OF STATE AND LOCAL PUBLIC INSTITUTIONS OF HIGHER EDUCATION, 1970

	U.S. Average $	Connecticut $	Rank Among 50 States
Total Expenditure (000)	8,605,378	76,279	
Per FTE Student	1,606	1,523	33
Per $1,000 of Personal Income	11.62	5.53	48
Per Capita	42.51	25.16	47
Per Person of College Age	364.82	223.75	47

Source: Edric A. Weld, Jr., "Expenditures of Public Institutions of Higher Education, 1969-70," *Journal of Higher Education*, Volume XL, No. 6, June, 1972.

RANK AMONG PEERS

The comparison with peer institutions is based on the U. S. Office of Education's Higher Education General Information Survey (HEGIS) for the fiscal year ending 1972 (see Table 13).

TABLE 13

COMPARISON OF INSTRUCTION-RELATED EXPENDITURES AT CONNECTICUT AND PEER INSTITUTIONS, 1971-72

	Educational General	Instruction and Dept. Research	Libraries
A. Universities (8)*			
Median	$2,678	$1,445	$111
Univ. of Conn	2,581	1,320	117
Univ. of Conn Rank**	5 of 8	6 of 8	3 of 8
B. State Colleges (18)*			
Median	$1,745	$1,033	$92
Conn. S.C.	1,337	835	40
Rank	16 of 18	15 of 18	17 of 18
C. Community Colleges (22)*			
Median	$1,363	$708	$57
Conn. CC's	903	499	42
Rank	21 of 22	21 of 22	17 of 22
D. Technical Colleges (9)*			
Median	$1,561	$833	$65
Conn. TC's	1,201	765	22
Rank	9 of 9	9 of 9	9 of 9

* Number of institutions surveyed.

** Highest Expenditure = 1

Source: USOE's Higher Education General Information Survey (HEGIS) for Fiscal Year Ending 1972

Each constituent unit of Connecticut's public system indicated a number of institutions which have similar missions and which are recognized as providing educational programs of sound quality. Pertinent financial and enrollment data from each of these institutions was used to relate expenditures per FTE student at Connecticut institutions to expendi-

tures at target institutions. The three types of activity used for comparison purposes are:

- Educational and General Expenditures. All current expenditures that relate to an institution's educational program excluding auxiliary enterprises and student financial aid.

- Instructiona, and Departmental Research. That part of educational and general expenditures devoted to actual departmental instruction, excluding organized research, general administration and other similar costs.

- Expenditures for Libraries. Library budgets are a traditional indicator of the quality of program offered to the students of an institution.

In each of the three categories, per-student expenditures at each unit of the Connecticut system of higher education rank well below the median of the peer institutions.

The averages for the Connecticut public units would be approximately ten percent higher if some centralized payments made through the comptroller's office were paid by the institutions from appropriated funds. Included are telephone expenses, some capital repairs, some office equipment, and fringe benefits, such as social security, workmen's compensation, hospitalization and life insurance and health services.

With or without these costs included, however, the average dollar support per full-time equivalent student in 1971-72 in Connecticut's constituent units for the instructional and departmental research function compares unfavorably with the amounts spent by peer institutions.

OTHER INDICATORS

There is other evidence of the deteriorating support for Connecticut public higher education. During the two-year period from 1971-72 to 1973-74, state appropriations for higher education in the 50 states, as reported in M. M. Chambers' annual survey, increased at a weighted average of 25.25 percent.

If Connecticut's appropriation had reached the average of the 50 states, it would have been $139.9 million for 1973-74. In fact, it was $119.8 million. Assuming that Connecticut had achieved the average support level of $139.9 million in 1973-74, an increase of only 3.6 percent in funding for 1974-75 would provide $145 million. This is the amount requested by the Commission for Higher Education based on budget requests from the constituent units as follows:

	(millions)
Regional Community Colleges	$ 24.3
State Technical Colleges	5.5
State Colleges	35.4
Univ. of Connecticut	51.7
Health Center	19.2
Commission for Higher Education	8.9
	$145.0

75TH PERCENTILE AS AN INDEX

The five-year objective is for Connecticut to achieve a level of quality in higher education equal or superior to those states which are above the 75th percentile, i.e., in the upper quartile, of the 50 states in expenditures per FTE student. An appropriation of $145 million for 1973-74 would be a first step toward this goal. It would provide $1,989 per FTE student, somewhat below the 75th percentile of the 50 states for 1970 of $2,237.

The real objective, of course, is not to encourage Connecticut to spend as much on public education as other states spend but to achieve the highest possible quality of education that its per capita income and its economy can provide.

There is a relationship, however, between what a state spends and what it gets in programs, facilities and services and in qualified professional and technical manpower. Connecticut, lacking in natural resources, has a greater incentive than many states to develop its human resources. It must offer opportunities in its public institutions comparable to the better opportunities available to students at public institutions in other states and at the private colleges and universities.

Appropriations necessary for Connecticut to rank among the top 25 percent of the states in student support would represent a return to a level of FTE funding that prevailed in prior years. Projected institutional expenditures of $116.9 million for 1974-75, exclusive of the Commission for Higher Education and the Health Center, would represent 8.5 percent of the total projected state budget, compared to 8.4 percent in 1968-69 (see Table 14, p. 116) and--depending upon the state's support from the general fund for all programs and services--possibly increasing to 10.7 percent in 1978-79.

If one includes projected budget amounts for the Commission for Higher Education and the Health Center, the total appropriation needed could reach $256 million in 1978-79. This estimate is tentative, subject to modifications based on the breadth of services developed, patterns of delivery, actual costs and other factors.

Thus, the 75th percentile is

a convenient, although not a fixed target. Other states in the upper quartile can be expected to change their levels of support during the next five years. Inflation will continue to affect costs and the implementation of some Master Plan recommendations will require additional funding.

TABLE 14

PROJECTED GENERAL FUND EXPENDITURES FOR HIGHER EDUCATION*
AS A PERCENTAGE OF PROJECTED TOTAL STATE EXPENDITURES

(a)	(b)	(c)	(d)	(e)	(f)
Year	Proj. Total State Gen'l Expen. (millions)	Recom. Expen. Per FTE Stud.	Proj. FTE Enrollment	Recom. Total Institutional Gen. Fund Expen. (c) x (d) (thousands)	Percentage of Total State Budget (e) ÷ (b)
1974-75	$ 1,368	$ 1,989	58,750	$ 116,900	.085
1978-79	2,010	3,094	69,400	214,700	.107

* Excluding the Health Center of the University of Connecticut and the Commission for Higher Education

Source: Table 4, *Finance: Fiscal Support and Resource Allocation,* Resource Group VIII, Connecticut Commission for Higher Education February, 1973

DISCRETIONARY FUNDS NEEDED

Costs to implement some of the key recommendations, such as those relating to the development of nontraditional programs and the expansion of supportive services, cannot be projected specifically in advance. No attempt should be made to do so, since the earmarking of funds would inhibit the system's flexibility to move in new directions as opportunities arise to improve Connecticut's educational services.

There should be some discretionary funds to be used as grants to institutions to encourage quick and innovative responses to needs as they are identified. Criteria and priorities for the grants should be established by the Commission for Higher Education in consultation with representatives of the constituent boards and the independent colleges.

The availability of funds for the support of experimental and pilot projects that may subsequently be adopted elsewhere in the system and funded within regular institutional budgets is particularly important during a time of change such as the '70's. It would be comparable to the practice of industry which invests a significant percentage of its budget in research and development to insure innovation, growth and vitality.

BETTER DATA REQUIRED

Efforts must be made to refine comparative data in order to develop more accurate and valid measures of the adequacy of institutional support and to improve allocation and budget procedures. Among the categories of data requiring refinement are average salary comparisons, classroom space per full-time equivalent student, student-faculty ratios, support per program unit and support by division.

In June, 1972 the Commission established a task force to develop a higher education information system (I/S) to facilitate such data gathering. Implementation of this computerized system (see Section XI) will provide current and detailed information almost instantaneously. Previously, all data comparisons and analyses have been made after counting and recording by hand.

As more complete and detailed information becomes available, the Commission will make periodic reviews of the support level to insure that its quality of program compares favorably with that provided by states above the 75th percentile and will develop its budget requests accordingly.

▶ ACTIONS RECOMMENDED

97 *That the system of higher education in Connecticut strive to provide services equal or superior in quality and diversity to those states which, according to their level of support per FTE-student, are above the 75th percentile among the 50 states*

98 *That the level of funding for the Commission for Higher Education be an amount equal to one percent of the total budget of the other constituent units in the public system of higher education and that this amount be utilized for both the ongoing activities of the Commission, exclusive of legislatively mandated special projects, and for special grants to institutions to encourage innovative educational programs, to improve supportive services for students, to expand community service programs, and to foster research and development*

99 *That the additional resources necessary to expedite development of the management information system (I/S) be made available and that the development of data relating to finance be given top priority*

TUITION AND FEES

Determining the amount of tuition and fees that students pay at the various institutions within the

public system is the responsibility of the boards of trustees. The decision is a difficult one.

Since Connecticut does not have a graduated personal income tax--it does not raise its general revenues in this manner--it is necessary for the boards to define a level of tuition which represents a fair and practical allocation of cost between the state and the student. If the criterion of fairness is to be applied then the charge must reflect a recognition of the individual's ability to pay and should be prorated equitably for part-time students whose numbers are growing.

Tuition revenues accrue to the state general fund. They are not earmarked for higher education and institutions do not benefit directly from the tuition they collect. In practice, therefore, it has been the General Assembly--not the boards of trustees--that has been responsible for tuition raises whenever they have been instituted.

Determining the amount of tuition to be charged should be the responsibility of the system of higher education rather than the legislature. Boards of trustees and the Commission for Higher Education should review the schedule of tuition charges each budget year and recommend adjustments based on educational and social, as well as financial, considerations.

Tuition charges for Connecticut residents for the academic year 1973-74 were:

Univ. of Connecticut	$350
State Colleges	300
Regional Community Colleges	200
State Technical Colleges	200

Out-of-state students pay $850 at each of the units.

Nationally, there has been public expression recently in favor of students paying a greater share of the instructional cost, even in public institutions committed to providing access and opportunity for all students, regardless of economic background. The Carnegie Commission and others have recommended tuition rates approximating one-third of the cost of instruction. There are some strong arguments to support such a policy. For Connecticut, however, it would mean doubling or in some cases tripling current tuition rates, which would make higher education prohibitive for many persons unless extensive student financial assistance was assured.

Required fees also have been going up in recent years. These revenues remain with the institutions to pay for supplies and services not supported by the state general fund appropriations. The actual fees charged vary from institution to institution, ranging from $15 per year at the state technical colleges to $350 per year at the University of Connecticut. The University's fees are scheduled for possible

increase again in 1974.

At all institutions, fee increases are related mainly to the rising cost of services. In the case of the University, for example, a recent policy interpretation requires that the cost of fringe benefits for employees in auxiliary services or on other projects financed by student fees be paid from these funds rather than by the state comptroller's office. Virtually the only way to reduce such fees is to reduce expenditures for the programs supported by the fund.

Fee schedules throughout the system and within constituent units are far from consistent. For example, the state technical colleges report no course fees while college services fees (formerly called laboratory fees) at the community colleges increased from $30 to $46 per year for full-time students from 1970-71 to 1972-73. Within the state college system, Eastern Connecticut State College charges only $6 laboratory fee whereas Southern Connecticut State College assesses 111 different course fees ranging from $3 to $25 each.

To prevent further proliferation and discrepancies in charges to students, it is important to hold the line on fee charges.

Together tuition and required fees make up a large part of the student's total cost of attendance. Any significant increase in either charge must be accompanied by a corresponding raise in student financial assistance if it is not to exclude certain students because of their inability to pay.

Although it is difficult to measure objectively the benefits of higher education to the individual and to the state, there is no question as to the value of an educated citizenry. This is especially true for Connecticut, whose chief resource is its skilled manpower. The goals of access and equal opportunity, reiterated in this Master Plan, can be achieved only if students are not excluded from higher education because of their inability to pay. This must be reflected in the charges made to students for tuition and fees.

▶ ACTIONS RECOMMENDED

100 *That the General Statutes amended so that the boards of trustees, in conjunction with the Commission for Higher Education, are responsible for recommending to the General Assembly any changes in tuition and/or fees*

101 *That any raise in tuition be related to the cost of instruction and be accompanied by a comparable increase in student financial assistance*

102 *That steps be taken to reduce present fees or at least to prevent further increases in institutional fees, i.e., non-tuition, during the*

first two years of the Master Plan

103 *That tuition be waived for both in-state and out-of-state full-time graduate assistants and fellows and prorated for part-time graduate assistants*

104 *That part-time matriculated undergraduate students in a public institution be charged the same tuition proportionately as full-time undergraduate students, even though the program being pursued is offered by the continuing education division*

105 *That funding of student financial assistance programs be sufficient to allow colleges to grant aid on a prorated basis to those part-time students in baccalaureate degree programs who have a proven need for such assistance*

106 *That institutions and the legislature take action to implement the above three recommendations (103-105) in 1975-76, including provision for the transfer of funds from the general fund to the educational extension fund of institutions to reimburse them for any reduction in income due to the registration of part-time undergraduate students*

FINANCIAL ASSISTANCE

Connecticut students have available a variety of privately funded scholarships and state and federal programs of student financial assistance (SFA). State programs include:

State Scholarship Program. Grants from $100 to $1,000 annually for students who qualify on basis of both academic performance and financial need. About ten percent of the awards go to graduate students. Recipients, who must be Connecticut residents, can use the grants at any approved postsecondary institution in the United States. Approximately 2,000 students were receiving state scholarships in 1972-73, some 700 of which were new awards. The average scholarship was approximately $625.

College Continuation Grants. A program of grants not to exceed $1,000 per year for students already enrolled in college and in need of financial assistance. Recipients are selected by the colleges. In 1972-73 there were just over 400 such grants averaging approximately $325 each.

Restricted Educational Achievement Grants. From $100 to $1,000 annually to economically and socially disadvantaged individuals for use only in Connecticut institutions. In 1972-73 there were 531 such grants totaling $228,000 at an average of $429 each.

Awards to Children of

Veterans. A program of awards to children of deceased and disabled veterans. In 1972-73 awards of $400 each were made to 105 students, a total of $42,000.

Work Study. A subsidized program of work while student is attending college. State funds are allocated in proportion to the federal work-study allocations to Connecticut institutions. In 1972-73 state funds totaling $103,075 were provided for this program.

Connecticut Student Loan Foundation. A program to assist Connnecticut students in financing their education by guaranteeing loans made to them. The actual loans are made by authorized lenders, such as banks and savings and loan associations, in the state and bear a maximum of seven percent simple interest. Undergraduates are allowed to borrow up to $1,500 per year with a maximum unpaid balance of $7,500. The figures for graduate students are $2,500 and $10,000 respectively.

P.A. 73-551 Public Act 73-551, the successor to Special Act No. 53(1972), authorizing the Commission for Higher Education to contract with independent colleges for the education of Connecticut undergraduate students enrolled in these institutions. The amount distributed is controlled by the appropriation made. The formula which is followed specifies that the payment to the independent institution be based upon one-half of the difference between the cost to the state to provide education in the public institutions and the tuition collected from the students enrolled in the public institutions. The appropriation for 1972-73 permitted the Commission to make payments for only 8.7 percent of Connecticut students enrolled in independent institutions. The institutions must distribute to Connecticut undergraduate students, in the form of grants, not less than 80 percent of the funds received.

FEDERAL PROGRAMS

The principal federal programs until 1972-73 have been the Equal Opportunity Grant Program (EOG), the Federal Work Study Program and the National Direct Student Loan Program (NDSL). All of these programs are administered by the educational institution and are for all U. S. citizens without regard to state of residence. The student may get a mix of these funds depending upon financial need.

In 1973-74 the federal government initiated a new form of student financial assistance--Basic Opportunity Grants (BOG). The BOG program is based upon the "entitlement" concept, which means that a student is entitled, based upon need, to an educational grant which he can carry to any post-secondary institution he chooses.

This differs from previous programs in which funds were granted to institutions.

While the BOG legislation authorizes a maximum of $1,400 per student per year, the funding this year is not nearly at that level. Restricting the program to first-time students may allow annual grants of up to $500 or $600.

SFA IS INADEQUATE

In 1972-73, the largest number of new students enrolled in Connecticut's major student financial assistance programs--the State Scholarship Program, the College Continuation Grant Program, the Restricted Educational Achievement Grant Program and the Connecticut Work-Study Program--was 2,018. This was about five percent of all high school graduates and about eight percent of all graduates going into post-secondary education.

The bulk of Connecticut's assistance is distributed through the State Scholarship Program, but fewer than two percent of the state's high school graduates receive such aid.

This low level of assistance places a tremendous burden on poor and middle-income families with heavy family, medical and debt obligations. According to a survey by the Commission for Higher Education, approximately 2,000 high school graduates could not enter college in 1973 because of financial reasons.

Student financial aid officers in Connecticut's colleges, public and private, estimated the unmet need of undergraduates in 1973-74 at $6 million. This need is beyond that met by all currently available state, federal and institutional funds. The spending level from state general funds for aid to students, exclusive of loans, is $4.7 million.

By 1978-79--assuming that conditions such as funds available from families, the rate of inflation and other factors remain fairly constant--the total need for student assistance is estimated to be $15.5 million. At the present level of support, Connecticut will be short $10 million, an indeterminate portion of which may be met by federal, institutional and private sources.

The Commission and the constituent units have requested $8.25 million in state funds for SFA for 1974-75. Even at this level of funding there would still be a gap of $6 to $8 million by 1978-79.

Connecticut appears to be lagging nationally also. In 1972-73, 28 states representing 78% of the nation's population, spent $312.3 million on scholarship aid, exclusive of work-study and loans.

This is an average per capita expenditure of $1.97. Connecticut spent $.56 per capita. For 1972-73, it is estimated that these 28 states will spend $375.3 million

or an average of $2.37 per capita for SFA while Connecticut will spend $.58. While the average per capita expenditure will have gone up 40 cents per person nationally, it will have increased only two cents per person in Connecticut.

OVER-DEPENDENCE ON LOANS

While the Connecticut Student Loan Foundation is an excellent supplement to a grant program, it should not be relied on as a major source of financial assistance. The majority of the members of Resource Group VIII asserted a belief that

> *Incurring a large debt to finance one's education is detrimental in two ways. First, it is a discouragement to low-income people and, as such, is not a vehicle for equal opportunity....Second, existing loan programs put the repayment burden in [that] part of a person's life when his income is likely to be the lowest and when he or she is likely to be in the family formation stage.*

There is evidence that Connecticut students are forced to be overdependent on loans and work-study. Although Connecticut ranks only 24th in population, it is the fifth highest in amount of student loans outstanding--$183 million and with defaults rising. Only New York, New Jersey, Pennsylvania and Illinois exceed this amount. This average amount borrowed in 1973 was $1,250.

Increased student financial assistance in the form of grants appears to be critical to the achievement of Connecticut's goal of insuring that no student be denied the opportunity for higher education because of his economic situation. This is the most effective way to insure that student bodies will be representative of the population.

In determining eligibility for grants, financial aid officers now must take into account the recent ruling that age 18 is the legal age of majority. A student 18 years or older may be independent of parents or head of a household. This may prove to be an important factor in future computations of financial need, especially if the number of adults attending college continues to increase.

NEED FOR COORDINATION

While a student financial assistance program may encourage a moderate amount of work or borrowing, it should be built primarily upon grants. No student should be forced to work to an extent that interferes with academic success nor to borrow so much that in his early adult life he is indebted to an extent that will handicap his potential for decent housing and marriage.

Whatever program or combination of programs Connecticut adopts to meet the needs of its citizens for

increased student financial assistance, it can best be administered and coordinated by a single commission. This commission, in addition to administering the state programs, would coordinate state efforts with federal programs.

PUBLIC FUNDS FOR INDEPENDENT INSTITUTIONS

Although enrollment in the independent colleges and universities was surpassed by the public institutions in 1966, they are still one of the state's important resources and should be utilized to the fullest extent.

Two laws recognize the value of having a vital and responsive independent sector in higher education--Public Act 73-551, an amendment to Special Act 53, and Public Act 140 (1972).

While these programs have the potential for fulfilling the needs and no new legislation is recommended, additional funding of P.A. 73-551 will be required for it to serve a full four-year complement of students. The recommended funding of Public Act 140 in future years will depend upon assessment of its success in 1973-74.

▶ ACTIONS RECOMMENDED

107 *That the State of Connecticut immediately initiate and fund a student-aid grant program which, together with the federal student-aid programs, will insure that no person will be denied access to higher education for reasons of inadequate personal or family finances*

108 *That the program, while it may encourage a moderate amount of work or borrowing, be built primarily upon grants*

109 *That the amount of student-aid grants vary inversely with family income and be tapered so that they do not end abruptly at a predetermined family income level without taking into account the number of children, the current state of indebtedness, costly health programs and other factors*

110 *That following the implementation of a comprehensive student aid program, the state discontinue the present State Scholarship program, the Restricted Educational Achievement Program and the College Continuation Grant Program in their present form but maintain a moderate fund to provide encouragement and incentive for students of outstanding academic achievement*

111 *That a Student Financial Aid Commission be established to replace the State Scholarship Commission, with the new commission assuming responsibility for coordi-*

nating state efforts with the student aid provisions of the Federal Higher Education Amendments of 1972

112 *That the General Assembly continue to increase the funding of Public Act 73-551 for students in independent colleges to a level of $4.5 million in 1975-76*

BUDGET PROCEDURES

Budgeting for higher education involves an extensive array of procedures. Thus it is not surprising to find that a number of delays and inconveniences occur in connection with these procedures. Problems relate to the deadlines on which budgets must be submitted, the multiplicity of forms that must be used and a budgeting technique that, in general, needs updating.

The Commission for Higher Education, under Section 10-328 of the General Statutes, is responsible for recommending to the Governor and General Assembly appropriations from the state general fund for "an improved coordinated program of higher education in the state."

The stages in budget preparation are as follows:

April: The Commission for Higher Education distributes guidelines and forms for budgets for the fiscal year beginning on July 1, 14 months later.

July 1: Boards of trustees of the constituent units submit their budget requests to the Commission for Higher Education for review.

September 1: Deadline for submitting to the director of the budget the funding requests and information and to forward to the Governor and General Assembly a report of the budget requests and the Commission's recommendations for funding for the next fiscal year.

During the legislative session beginning after the first of the year, the Commission for Higher Education appears before the appropriations and finance committees to explain its budget recommendations and to provide additional information and justification as required.

In preparing their budget requests, constituent units are requested to utilize the current year's spending level as a base and, after reviewing existing programs, to group additional amounts requested for the budget year into three categories:

- Support required to maintain existing programs at their current level;
- Additional support required to improve the quality of existing programs;
- Funding desired for additional activities and programs.

Units are also asked to identify funding reductions in programs and services resulting from improved efficiency and from program and service changes.

PROBLEMS INVOLVED

The budget procedure described above gives rise to certain problems that need to be resolved.

Timing. Budget requests are reviewed by the Commission's Fiscal Policy and Planning Committee. Recommendations for funding must be made to the full Commission in time to permit submission of budget recommendations to the Budget Division by September 1.

In order for the Commission to comply with this deadline, the constituent units must submit budget requests not later than early July. Budget procedures, however, require that requests be related to expenditures in the year preceding the one for which funds are being requested. This creates a dilemma in that it is early in June before the operating budget for the current year is passed by the legislature and signed into law by the Governor. Often allocations of these appropriations are not made until some time after this date, frequently after the beginning of the fiscal year on July 1.

Such timing imposes an extreme burden on institutional and agency administrators in developing budget requests. Often tentative budgets have to be prepared on the assumption that specific sums will be available. If the allocations are changed the budget must be adjusted to reflect this change.

Budget Forms. The constituent units must complete and file three separate sets of budget forms in the very brief period of time available. Two sets are required by the Budget Division and one by the Commission for Higher Education. One set of Budget Division forms is a detailed line item budget of approximately 100 pages. The second set of Budget Division forms, relates to a program planning budget system. It appears that these forms are used solely for compiling a list of program element categories. The Commission, for its analysis of requests, needs separate supporting documents which are different from those supplied to the Budget Division. To reduce the burden on the units, the Commission has adapted one of the Budget Division's summary sheets for its main input form, but the total amount of paper work is still inordinately heavy.

The Commission for Higher Education recognizes the difficulties that would be incurred if higher education were granted an exception to the state's budget system and the

unit compilations could not be coordinated with those of other state agencies in the statewide compilation. It is felt, however, that the over-all burden of the multiple and detailed forms could be reduced --without hindering coordination--if a planned program were developed jointly by higher education and the Budget Division of the Department of Finance and Control.

Hiring Delays. Serious inconveniences occur when the Departments of Personnel and of Finance and Control delay clearance to fill authorized positions. The best candidates for faculty positions often are hired by other institutions when hiring is delayed until summer or fall rather than being permitted to take place in late winter or early spring.

Faculty may go for long periods without typing and clerical assistance and administrators may spend undue amounts of time on routine duties when they are unable to hire staff assistants. Better utilization of personnel could be realized if hiring were allowed in accordance with current statutes and without further clearance by Finance and Control for all authorized positions that are not dependent upon uncertain enrollments.

Limitations of the SCHLDE Budgeting Technique. In reviewing budget requests, the Commission makes historical and constituent unit comparisons by expenditure categories, enrollments per full-time equivalent faculty, expenditures per full-time equivalent student and SCHLDES per faculty member.

SCHLDE is an acronym for "student contact hours in lower division equivalents." It is the basic formula on which funding needs for the instruction and departmental research functions are determined for the constituent units.

The contact hour represents one student in a formal teaching, laboratory or shop assignment for one class hour. Because more faculty resources are required to provide a given number of student contact hours as the level of instruction increases, a conversion factor is used for upper division and graduate courses to convert to the lower division equivalents. Total SCHLDES divided by total full-time-equivalent faculty members produces a measure of the average faculty teaching assignment.

This budgeting technique, introduced in 1967 by the Commission for Higher Education, weights student contact hours by level of instruction in order to relate the requirement for faculty positions--the largest part of an institution's budget--to the varying missions of the institutions

within each constituent unit.

There are two principal problems with the SCHLDE budget method. One is inherent in the technique itself; the other involves its application. First, while the SCHLDE technique is a very useful device by which to evaluate unit budget requests objectively, it fails to consider program cost differences. The allied health programs, for example, require small group instruction due to use of equipment and in-hospital training. Also, converting all programs to "lower division" equivalents can mitigate against the adoption of important programs or drain the resources from other programs.

Nevertheless, the SCHLDE method--representing a logical budgeting rationale based upon educational variables--is a far more satisfactory allocation method than one using simple enrollment. In recent years, however, its usefulness has been limited because the actual budgeting procedure employed by the state has tended to be purely incremental, based upon a percentage increase of the previous year's base. This practice results in the SCHLDE becoming little more than a post-budget index of funding and faculty work load.

FUTURE POLICY

It is in the interest of the entire state--the general public, the state government and the higher education community--to institute budget development procedures that will contribute more to planning than they currently do.

Such procedures should allow for specific statements of direction and priorities; for comparative cost analyses with other states, and for the equitable allocation of scarce public funds among constituent units, recognizing at the same time the special mission of each institution. The procedures also should generate data related to each institution's objectives, allowing for performance auditing and assessment of accountability.

The development of budget procedures incorporating these four characteristics will require the concurrent development of the management information system (I/S). One benefit of this development will be the determination of program costs in a consistent manner for all programs in the public system. This will allow for a more detailed comparative cost analysis between institutions.

EXPENDITURE CONTROLS

Public institutions of higher education, like all state-funded agencies, must make an effort to obtain the greatest possible return on operating funds.

Chief administrative officers

and boards of trustees, who are familiar with an institution and accountable for its success, can contribute greatly to the institution's cost effectiveness if they are allowed to make allocation and spending decisions.

There is no question that institutions must be accountable for their use of public funds. This accountability, however, should be mainly on a post-audit basis. Present control procedures appear to reduce rather than increase local institutional accountability. Resource Group VIII, studying finance, found no evidence that the existing pre-audit controls are sufficiently productive to offset their negative effect upon flexibility, internal procedures and morale. The group concluded in its report:

> *The principal difficulty with the current centralized controls is that they inhibit institutional flexibility.... It is in times of austerity when flexibility is most needed.*

▶ ACTIONS RECOMMENDED

113 *That a budget task force be set up to include members of higher education and of the Budget Division with the goal of developing a single abbreviated budget document designed to adequately serve both the needs of the Budget Division and of higher education and at the same time reduce the time required by higher education units in compiling the budget data, and that this abbreviated budget document be used for the 1975-76 budget preparation*

114 *That the period of budget preparation begin no later than March 1*

115 *That future budget recommendations incorporate directions and objectives for funding of the primary programs (instruction, research, public service) of each unit, and that recommendations be based, at least partially, upon comparative cost analyses of peer institutions in other states*

116 *That these objectives allow for a proportional adjustment of the funding of primary programs dependent upon the constraints of the statewide economic capacity of support in any year*

117 *That the Governor and General Assembly provide broad spending guidelines to the constituent units of public higher education, to be monitored and controled by the boards of trustees and the administrative officers of each unit, and that unnecessary pre-audit controls of day-to-day institutional decisions by the Department of Finance and Control be discontinued*

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance

XI. STATEWIDE INFORMATION SYSTEM (I/S)

XII. Topics for Future Study
XIII. Agenda for Action: When and By Whom

- *I/S to supply data on complex questions*
- *Decision-making to be facilitated*
- *First phase of implementation: finance/budget*
- *System to be managed by Planning and Review Committee and Committee of Users*

XI. STATEWIDE INFORMATION SYSTEM

During the preparation of Connecticut's Master Plan, the Commission was also conducting a parallel research and planning activity on a statewide integrated information system (I/S). The development of a system for the collection of data is a necessary concomitant to the implementation of the Master Plan. The I/S will provide information to test and measure progress made towards the achievement of the recommendations contained in the Plan. In March 1973, the Commission for Higher Education accepted and approved the *Study Report and Information System Plan, System for Higher Education in Connecticut*.

BACKGROUND

In the spring, 1972, a task force of representatives from the five constituent units aided by consultants from the IBM Corporation, which donated their services, started a study which resulted in the proposed plan for an information system. The plan was developed in response to the recommendations contained in the report of the Governor's Commission on Services and Expenditures and in recognition of the need in higher education for more accurate, comparable and timely information. The plan recommends answers to problems dealing with data collection, data storage and information flow in the system of higher education. Major objectives of the study were:

- To review existing management information systems in key education and industrial projects in other states;
- To assess the information needs of the constituent units;
- To develop an inventory of existing hardware, software, personnel and budget support within the constituent units;
- To identify common institutional processes;
- To relate data bases, processes, functions, and institutions, and
- To analyze findings and

prepare a *Study Report and I/S plan*.

FINDINGS AND CONCLUSIONS

Investigation and analysis of background studies resulted in the following conclusions:

- Current institutional systems will not provide the integrated, statewide perspective required to answer the complex questions being asked.
- Present management of data processing resources throughout the system can be significantly improved. There is a pressing need for a structure and plan to provide for orderly growth and the measurement of accomplishments.
- The information gap is particularly acute in the finance/budget and student-record areas. The demand for balancing educational quality against expenditures is forcing all constituent units to set priorities and assume a greater degree of accountability for results.

In an environment where decisions often involve educational/economic trade-offs, the capability to simulate the results of alternative actions before they are taken can be critical. Present methods of handling information cannot do this. When completed, the I/S will be able to simulate the educational and financial effects of policy and funding decisions.

PROBLEMS AND OPPORTUNITIES

Executive officers realize the magnitude of the problem. The volume and complexity of information needed is expanding at a rapid rate. The present flow of data from the campuses to the Commission for Higher Education and from the Commission to state and federal government offices is cumbersome at best. Very little of the data required for the reports is automated. Data from a few isolated automated systems get intermingled with information from systems which are maintained manually. When each of the 21 public institutions makes its own definition of data elements, chance of misinterpretation by those who aggregate or compare data from the colleges is great.

Prior to the development of the I/S system, however, there had been little statewide planning or coordination of information systems. Requests for data processing services have been reviewed on the basis of needs of individual institutions, usually without regard to resources available on other campuses. Cooperation between institutions has been informal and limited.

THE PRESIDENTS' VIEW

Members of the I/S Task Force interviewed each president within the public system. All expressed their willingness to work together to develop a state wide I/S. Its economy compared with the cost of 21 individual campus installations, each with its own developmental, maintenance and hardware/software demands, is one of its chief attractions.

The presidents expressed the belief that a statewide approach to data processing will:

- Reduce start-up cost on new systems;
- Reduce development and maintenance cost;
- Provide integrated information which will allow for valid comparisons;
- Offer economies by providing for resource sharing and minimizing redundant development.

MODULE APPROACH

It is technically and economically infeasible to try to develop all related systems simultaneously. The highest priority, as defined by the presidents, is for a financial system. The second priority, related to enrollment, is for student flow models.

The financial system will be the first to be implemented in the overall development of I/S because of the urgent need for precise financial information to help college administrators allocate resources.

Also, the public, the state legislative and executive bodies and the federal agencies are showing an increased concern for efficiency and effectiveness in the spending of tax dollars. While education is not a profit-oriented operation, educational administrators are responsible for producing the maximum educational return from resources invested. The interviews clearly indicate that unit costs and course/program accounting have high priorities on local campuses.

THE PROPOSED I/S

Underlying the proposed information system is the firm conviction that the information needs of the campuses, the central offices, the boards of trustees and the Commission for Higher Education can be satisfied simultaneously by a single integrated information system network. In the development of the network, first priority must be given to meeting needs at the institutional operating level where the greatest information demands exist. With step-by-step execution the system planned can be extended to satisfy the information requirements of the central offices, the boards of trustees, and the Commission for Higher Education.

The I/S will incorporate a data base/data communication system with query capability. In addition, the system will include a single data entry process by which data are collected, edited, stored and updated by the staff on each campus at the source of the data.

In the beginning data will be stored in a large central processing unit, perhaps at the University of Connecticut or the State Data Center, both of which have equipment with the needed capability. All prime users will have direct access to centralized storage and processing. For purposes of security, identification will be made of those having access to files at all levels.

The Information System proposed by the Task Force could not have been planned without the work done previously by the Western Interstate Commission for Higher Education (WICHE) and its division, the National Center for Higher Education Management Systems (NCHEMS). The I/S incorporates the five data bases and support systems developed by that organization, namely finance, student, staff, facilities and academic programs. (For the seven classifications of functions of higher education in Connecticut's I/S, see Figure 2, page 137.)

SUGGESTED MANAGEMENT STRUCTURE

The proposed information network will require a management structure. The Plan specifies two governing committees—a Planning and Review Committee and a Committee of Users—to review and evaluate progress in system development. Subject to existing statutes concerning the control of the acquisition of data processing equipment, the chancellor of the Commission for Higher Education will coordinate the operation of the information System network with the Department of Personnel and Administration.

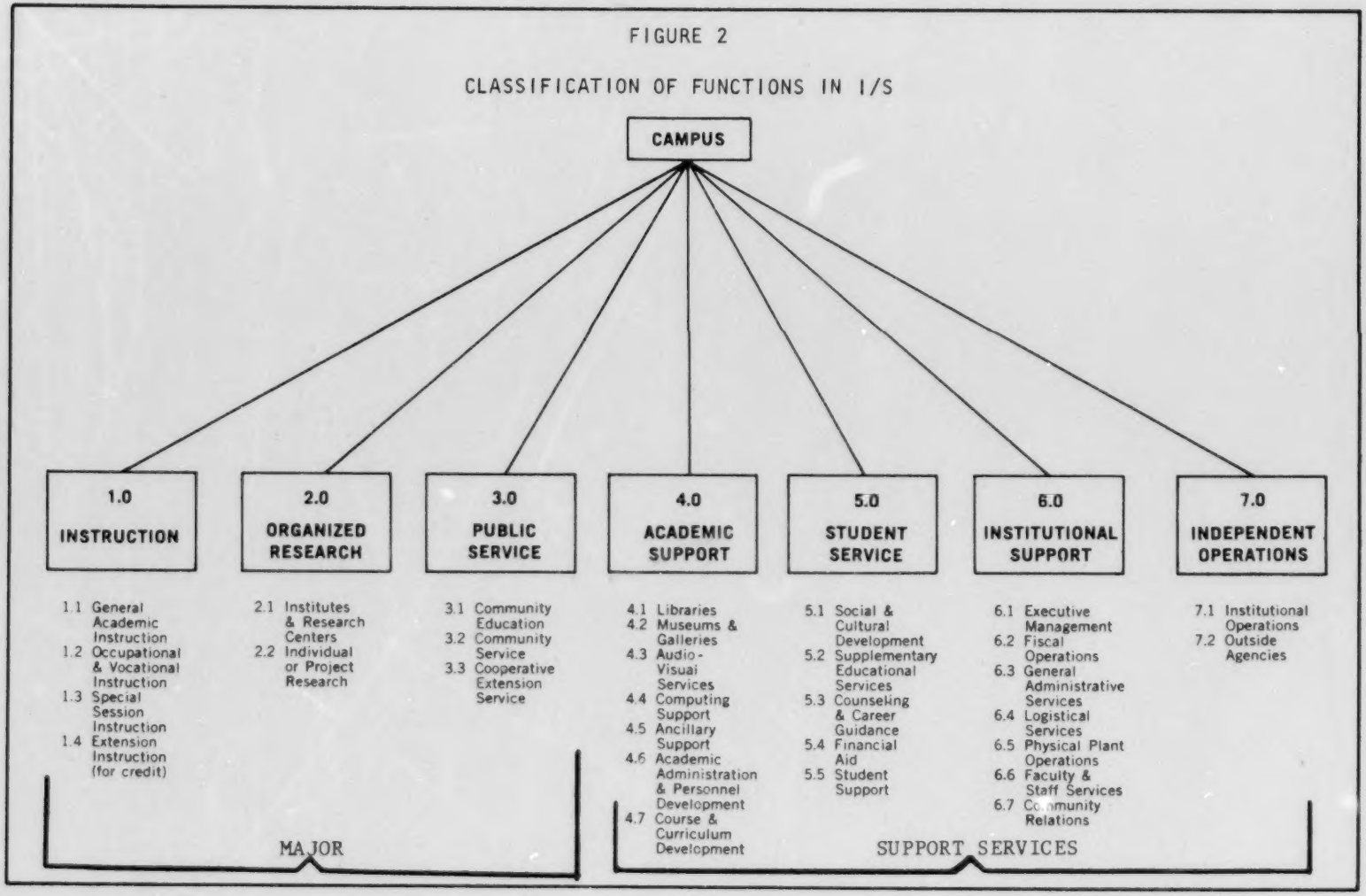
INITIAL STEP

The first stage in the Information System development for finance should include:

- Procurement of a software package to address the greater part of the following processes: budget preparation, financial record-keeping, planning and purchasing;
- Making the system compatible with the comptroller's chart of accounts and the WICHE/NCHEMS Program Classification Structure;
- Using existing hardware installations and holding additions to present equipment to a minimum;
- Preserving the integrity of present operations while the new system is being developed;

FIGURE 2

CLASSIFICATION OF FUNCTIONS IN I/S



- Designing the project to produce meaningful answers to present problems within a short time frame;

- Setting up a pilot project for first applications of the system, and expanding it eventually to include at least one college in each of the constituent units.

APPLICATION TO COLLEGE FUNCTIONS

During the first year, the pilot project will address specific problems in the implementation of the first of five possible subsystems in an administrative network. It will test the feasibility of terminal access to a central processing unit, clarify common definitions of data elements and provide actual experience necessary for the future development of a data base/data communication system. In addition, the committees will be established which will serve as the management group for the I/S implementation.

This initial phase of the I/S development in effect provides the framework for the expansion of computer applications to the major college functions. The use of computers for administration cannot be planned separately from the academic and scientific use of computers. It is quite likely colleges will be able to test the practicality of having a major computer center satisfy all their needs—administrative, academic and scientific. The availability of a major computer operating system with the advantages of associated software and compiling capability will be an important factor in campus academic planning.

The development of a statewide information system is a large and ambitious undertaking by a state agency. The proposed plan defines a modular approach in which the pilot project is the first step. Major questions such as the exact configuration of computer equipment on each campus, the location of the center and, indeed, the number of central processing units are questions which will have to be answered as the plan develops in a step-by-step process.

Although the pilot project at the present involves only public colleges, the initial phase should be expanded to include at least one independent college in the development of a financial system. Presently, the programs being used by the pilot colleges code expenditures both according to the state comptroller's chart of accounts and according to the national program classification structure developed by the Western Interstate Commission for Higher Education (WICHE). One or two independent colleges which are willing to adopt the WICHE classification will be invited to acquire terminal access to the central computer and make use of the programming capability available to the pilot colleges.

The *Study Report and Information System Plan*, approved by the Commission, will make possible the gradual implementation of computer applications to the entire system of higher education in Connecticut, public and independent.

THE I/S IN 1979

By 1979, when implementation of the proposed Information System Plan will have been completed, the network will incorporate at least five systems of related computer programs using five data bases: students, staff, facilities, finance and programs. Each of these systems will have been designed and developed, and a sequential pattern will be operative in a data base/data communications network. The system will be capable of using sophisticated forecast models to assist in evaluating the impact of policy changes with respect to such variables as class size, faculty load and space per student.

The principal benefits of the Information System will be the increased productivity in delivering information. The result will be a drop in requirements for personal services per unit of information, a cost reduction which will exceed the rise in the cost of operation of the automated system. Also, increased productivity will permit the generation of larger amounts of information in a more useful form without an increase in staff.

The I/S will also increase administrative productivity and efficiency. The more accurate information generated will aid in better decision-making, fewer management mistakes, better planning and reduced requirements for standby services and inventories of all kinds. Stated simply, the Information System will be a valuable tool in the improvement of executive decision-making and performance.

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System (I/S)

XII. TOPICS FOR FURTHER STUDY

XIII. Agenda for Action: When and By Whom

- *Personnel Policies and Salaries*
- *Research*
- *Teacher Education*
- *Graduate Programs*
- *Health Career Training*
- *Proprietary Schools*
- *Other Community Resources*

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XII. TOPICS FOR FURTHER STUDY

No master plan can cover all aspects of higher education. An attempt has been made in Connecticut's first Master Plan to address a number of the more pressing concerns, but many other crucial issues still need to be articulated. researched and exposed to public scrutiny. Some of these issues were pointed out during development of the Master Plan by persons interested in higher education. Others will emerge and will be dealt with in subsequent biennial revisions of the Plan.

Areas requiring further study beyond those included in this chapter, may be suggested to the Commission for Higher Education (CHE) by the Governor and General Assembly, by the public and independent institutions, by state agencies and by other interested groups or individuals.

In all cases, the CHE will continue to seek the broadest possible participation inside and outside the academic community. After the issues have been researched, the CHE--in conjunction with the constituent units--will formulate recommended policy which will then be included in the next updating of the Master Plan.

Among the topics already identified as requiring more attention--in some instances, continuing review--are the following: personnel policies including tenure, salaries, status of nonteaching professionals, collective bargaining, research, teacher education, graduate education; health careers, and the role of the proprietary schools. As many of these topics as possible will be studies within the next two years.

PERSONNEL POLICIES

A rapid growth in unemployment, rising costs and a deepening concern for people suggest that personnel policies will receive increased attention in the years ahead. Questions are being raised about professional personnel practices that have been unquestioned in the past. Collective bargaining, tenure, affirmative action, the status of nonteaching professionals and performance evaluation are a few of the topics that are receiving attention.

Institutions of higher educa-

tion require both administrative skill and wisdom if they are to obtain human services and meet human needs. Recruitment for administrative positions and for faculty positions in the upper ranks tends to be from within the institution, adding siginificance to personnel decisions made early in an employee's career.

Since ultimate responsibility for assuring that academic quality is achieved rests with the governing boards, they, in the last analysis, must adopt personnel policies which will further this objective. When a common concern suggests a system-wide approach, the CHE can appropriately exercise a coordinating function.

TENURE

Nationally the concept of tenure, long a faculty tradition, is being challenged. Some say it no longer has specific relevance to the academic situation since freedom of speech has become a universal right and since a high degree of job security in public employment is assured now by civil service law. Others claim that abuses within the tenure system require a re-examination of the system itself. During a period of stable student enrollment, faculty mobility may slacken and institutions may become top-heavy with tenured faculty. This condition, once attained, allegedly discourages innovation and reduces the quality of instruction and research.

It can also be argued that academic tenure provides protection to society as well as to professors. It not only shields faculty members from forces not interested in the advancement of knowledge but it tends also to encourage the exploration of new ideas and the testing of old dogma. An independent faculty is needed to guarantee the social rewards of intellectual curiosity.

Insitutions of higher education in Connecticut already are aware of the problems associated with tenure and are taking steps to surround the institution of tenure with the safeguards necessary to enhance its value and to prevent its misuse. There has been widespread faculty interest and input in the deliberations.

SALARIES

Concern over expenditures for higher education have made salary schedules at public institutions a matter of increased public interest. Boards retain the authority to establish the salaries to be paid but are under constant pressure to justify any upward revision of salary scales. Internally, they must provide a system for determining individual salaries that will meet the competition of other employers, warrant legislative support, satisfy the strictures imposed by equal opportunity legislation and at the same time maintain standards of excellence.

The CHE has two specific

responsibilities with regard to salaries paid at the constituent units. It must (1) approve the size, duties, terms and conditions of employment of central office staffs, and (2) it must comment and make recommendations with respect to (a) the proposed adoption of a change in the salary schedule or (b) the designation of a given employee position as professional at any of the constituent units.

In the fall of 1973, the Commission's Fiscal Planning and Policy Committee (FPC) authorized the creation of an Ad Hoc Salary Committee to examine salaries paid to unclassified personnel in the state system of higher education and to determine whether salaries now paid are competitive and whether there are inequities in salaries paid to persons in specific positions. All five members of the salary committee are from outside the state system of higher education. From the finding and recommendations of this committee, the CHE will be able to respond better to specific proposals for salary adjustment. This, or a similar arrangement, should be of benefit in considering future salary proposals.

STATUS OF NONTEACHING PROFESSIONALS

Sometimes overlooked in planning for higher education is the role played by nonteaching professional workers. Their functions are becoming increasingly important in the delivery of an educational program broad enough to accommodate many disciplines and career interests and large enough to handle the number and diversity of today's student population. Faculty and administration need the supportive services of librarians, physicians, personnel workers, financial aid officers, technicians, programmers, researchers, nutritionists and other professional workers.

The potential contribution of nonteaching professionals to the system of higher education in Connecticut is large and steps must be taken to make certain that this contribution is realized.

A particularly troublesome problem is the dividing the line between faculty and nonteaching professionals. Librarians and researchers, for example, are considered as faculty in some institutions and as nonteaching professionals in others.

The major concerns confronting these professional workers are job security (tenure or long-term contracts), hiring and termination policies, grievance procedures, the avenues open for further professionalization, such as educational leave and participation in professional meetings, and involvement in institutional governance.

The resolution of these problems is one of the most pressing items on the personnel agenda. Greater effectiveness of services rendered will result from the resolution.

COLLECTIVE BARGAINING

Formal collective bargaining has already made its presence felt on the American academic scene. In early 1973, over 300 institutions of higher education, most of them public, had signed collective bargaining agreements. Ladd and Lipsett, in a Carnegie report entitled *Professors, Unions, and American Higher Education*, lists four reasons why collective bargaining is likely to become the theme of the '70's.

- Economic retrenchment tends to encourage collective effort on the part of those affected;
- The scale of operations in higher education has led to bureaucratization which in turn has tended to place teachers and their employers in an adversary position;
- There has been a growth of enabling legislation paving the way for formal representation rights and;
- The broad social movements in the '60's have encouraged faculty members to unite to protect themselves both from forces external to the institution and from egalitarian-minded students within.

Collective bargaining is closely related to such disparate elements in higher education as salary scales, fringe benefits, due process in tenure decisions, grievance procedures, work loads and the role students should play.

RESEARCH

Research is an important element in the implementation of the goals for higher education in Connecticut. The acquisition and creation of new knowledge gives relevance and increased effectiveness to the teaching function and at the same time provides an awareness of problems and possible solutions that can form the basis for a viable service function. Both teaching and community service, to be effective, must be accompanied by a backdrop of impartial research.

Research strategies are constantly changing as new knowledge and new societal problems emerge. Research potential and reserach goals vary among the educational institutions in the state, and research, of course, is not confined to centers of learning; it has long been an adjunct to business and industry. Funding, priorities, division of responsibility, graduate programs, service needs and the duties and obligations inherent in scientific inquiry require constant review.

A certain basic component of research activity is assumed for all teachers and is not budgeted separately; instead "Instruction and Departmental Research" is treated as a single category. Faculty members, however, differ in their ability and interest in research.

Some are in a position to make very significant contributions if given time, facilities and research assistance. Others with excellent teacher records and a minimal interest in research perform an important function in higher education and should receive commensurate rewards and encouragement. Our higher education system needs a research policy to insure an optimum balance between the opportunities and rewards for research and those for teaching and public service. The Master Plan in the near future must address itself to research as a vital component of higher education.

TEACHER EDUCATION

The character and quality of teacher education has been a matter of concern in Connecticut for more than a century. The public supports the preparation of more teachers than it does professionals in any other field. Connecticut has demonstrated a sustained interest in making available excellent educational opportunities in Connecticut schools and this requires well-prepared teachers.

In 1967 the Commission for Higher Education recommended improved clinical experience in teacher education and the General Assembly responded by authorizing pilot projects financed by grants to be administered by a Joint Committee of the Commission for Higher Education and the State Board of Education. Since then 33 projects have been approved. A procedure now must be established for the prompt evaluation of the results of all projects and the orderly dissemination of the pertinent findings on a statewide basis.

A decline in the rate of demand for new teachers emphasizes the importance of carefully considered policies covering alternative opportunities for teachers now employed in the system, the redirected career orientation of students enrolled in colleges whose main mission has been that of preparing teachers, and the identification of career fields closely related to teacher education. The updated Master Plan will give specific attention to insuring an adequate supply of well-prepared teachers dedicated to quality education.

GRADUATE EDUCATION

There will be over one million graduate students in the United States in 1976. An enterprise of this magnitude calls for continuing reassessment and planning to meet the demand placed on institutional and governmental resources. Costs for education of a graduate student are usually greater than for an undergraduate.

It is important also to maintain the quality and flexibility of graduate study called for by an ever-increasing pace of discovery, change and growth in the state and region.

Mounting costs and the apportionment of resources add to the complexity of the undertaking.

Teaching, research and service often place conflicting demands on graduate programs. Thoughtful planning is needed to reconcile apparent conflicts and to reduce tension.

The complex structure of contemporary graduate education calls for both inter- and intra-institutional cooperation. The existence of institutes, programs, centers and a variety of multidiscipline groups--themselves the result of coordination--often accentuates the need for additional efforts towards cooperation.

Additionally, there is a danger that the student and his goals may be overlooked in the process of developing post-baccalaureate programs. Means must be found to insure the participation of students in policy decisions and program building.

HEALTH CAREERS

The report of Resource Group IV on programs calls for a new approach to education in health careers. A continuing and thorough analysis of the role of higher education in the training of health personnel is dictated by several factors, including new methods of health-care delivery and the complexity of current training programs.

In 1973, the Connecticut Institute for Health Manpower Resources, Inc. (CIHMP) published the *Directory of Connecticut Educational and Training Programs in Health Occupations*. The directory identifies 246 postsecondary educational programs in 69 different health occupations and professions, available in 76 institutions throughout the state, including technical schools and hospitals as well as colleges and universities. The increasing costs for these programs and the investment of student time required have brought them wide attention. Finally, there is a growing assertion that health care is a basic human right and that the assurance of adequate health personnel is a public obligation.

Among the most pressing issued relating to the education of medical personnel are the following: the training implications of the health-care team approach; a curriculum that includes clinical experience in an actual health-care delivery environment; the maintenance of open channels for vertical and horizontal movements of health workers on career ladders; the need for training linkages between health-care institutions and educational institutions; recognition that community service may be an integral part of the training process; and the impact of technological changes and advances in the delivery service upon the need for the retraining of professional

and paraprofessional workers.

The production of adequate health-care manpower will require the mobilization and coordination of a group of widely diverse institutions, including high schools, public and independent colleges and universities, hospitals, and proprietary organizations. Outside support available from foundations, and from federal and state agencies must be combined with income from tuition, fees and other sources, including endowment income. Total funding must meet operating costs and provide assurance of future continuity in programs.

One of the first tasks of the CHE will be to decide who will carry out this mobilization and coordination. Should it be entrusted to a new organization or should an existing organization, such as the CIHMR, undertake this important assignment?

The CHE has a long-standing interest in the development of health manpower. It chose health manpower as the first major occupational field to scrutinize in implementing S.A. 105 "concerning coordination of educational programs with employment opportunities." Under contract with the CIHMR, an extensive study has been undertaken. The conclusions should provide more definitive insights into the state's requirements for health manpower and how institutions of higher education can help to prepare personnel to meet the need.

PROPRIETARY SCHOOLS

The growth of proprietary schools was a direct response to public demand for vocationally oriented training and to federal programs designed to assist veterans, the physically handicapped, representatives of minority groups and the unemployed.

Students are not unlike those attending other postsecondary institutions and programs in many instances are similar to the offerings of the state system of higher education. Statewide planning must take into far greater account the educational programs of proprietary institutions.

In legislation enacted in 1973, the Commission for Higher Education was designated as the postsecondary or "1202" education commission to implement appropriate segments of the Federal Higher Education Amendments of 1972. In 1973, the General Assembly also passed legislation allowing the proprietary schools to seek accreditation from the Commission for Higher Education and to grant degrees. Consequently, CHE's perspective must and will include proprietary schools.

While guidelines implementing the federal legislation have not been issued, the CHE anticipates receiving them in the near future. The CHE also will establish its

own guidelines for evaluating the programs of the proprietary schools which seek accreditation and will coordinate their programs with the curricula of Connecticut's colleges and universities.

OTHER COMMUNITY RESOURCES

While a number of institutions of higher education have been collaborating with hospitals in offering educational programs--and to a lesser extent with public libraries and museums--the potential for interrelationships between institutions of higher education and other resources in the state can be realized more fully in the future. Tapping the rich educational resources of the varied community enterprises in each region can add greatly to the diversity of educational programs.

LOOKING AHEAD

Not since Sputnik has education in the United States been subject to such widespread public concern and appraisal. This revival of interest should be looked upon as a positive force which will influence education for many years to come. New ideas on the structure, curriculum and financing of higher education will be brought into public view and those charged with preparing and implementing a Master Plan for higher education in Connecticut must be responsive to proposals for change as they develop. The extent to which higher education benefits this state will be related directly to the care with which issues such as those noted in this section are addressed and resolved in future revisions of the state's Master Plan.

I. Goals
II. Current Climate
III. Organization and Structure
IV. Enrollment
V. Facilities
VI. Programs
VII. Nontraditional Approaches and the External Degree
VIII. Transfer
IX. Equal Opportunity
X. Finance
XI. Statewide Information System (I/S)
XII. Topics for Future Study

XIII. AGENDA FOR ACTION: WHEN AND BY WHOM

- *Goals*
- *Recommended Actions*

  Executive
  General Assembly
  Commission for Higher Education
  Boards of Trustees
  Others

- *1974-75*
- *1975-76*
- *1976-79*

XIII. AGENDA FOR ACTION: WHEN AND BY WHOM

This five-year Master Plan for 1974-79 includes over 100 conclusions and recommendations to implement the seven goals of higher education for Connecticut.

Responsibility for carrying out the recommended actions will be shared by the several institutions and agencies concerned.

The plan requires that actions be phased over the five-year period, as suggested in the chart on the following pages. Since P.A. 72-94 requires an updating of the five-year plan every two years, the phasing for actions to be taken after 1976 will be determined at the time of the biennial review.

GOALS FOR HIGHER EDUCATION IN CONNECTICUT

I. To insure that no student in Connecticut who is qualified or qualifiable and who seeks higher education be denied the opportunity for such education because of age, sex, social, ethnic or economic situation

II. To protect essential freedoms in the institutions of education

III. To provide opportunities for a liberal education and for preparing to serve the state's economic, cultural and educational development

IV. To develop the most effective use of available resources in public and independent institutions of higher education and thus obtain the greatest return on the public investment

V. To maintain quality standards which will insure a position of national leadership for Connecticut's institutions of higher learning

VI. To assist in bringing the resources of higher education to bear upon the solution or abatement of society's problems

VII. To foster flexibility in policies and institutions that will allow the state's system of higher education to respond promptly to changes in the economy, in society, in technology and in student interest

LEGEND

A	Board for State Academic Awards
C	Commission for Higher Education
E	Executive
G	General Assembly
H	Constituent Units
I	Connecticut Conference of Independent Colleges, and/or Independent Colleges
R	Regional Community Colleges
S	State Colleges
T	Technical Colleges
U	University of Connecticut
O	Other, including State Board of Education, Department of Public Works, Department of Finance and Control, Proprietary Schools

MASTER PLAN IMPLEMENTATION: WHEN AND BY WHOM

	Action Recommended	1974-75	1975-76	1976-79
1	*That the existing structure for public higher education in Connecticut, consisting of governing boards and a coordinating commission, be retained*	G		
2	*That the Commission for Higher Education and the governing boards be required to provide the Governor with an objective description of the competencies needed on the respective boards so that appointments will insure optimal functioning of the boards and adequate representation of the public interest*		C E H	
3	*That the General Assembly provide for the election of alumni members to the boards of trustees for state colleges, the regional community colleges and the state technical colleges, paralleling statutes which provide for alumni membership on the University of Connecticut board of trustees*		G R S T	
4	*That the General Statutes Section 10-323 be amended to include a representative of the Board for State Academic Awards as a member of the Commission for Higher Education, thus increasing the membership from 17 to 18*	A C G		
5	*That the Management/Policy Group continue to meet, at least quarterly, to assess*	C O		

	Action Recommended	1974-75	1975-76	1976-79
	progress in carrying out the recommendations in this Master Plan and to accomplish its biennial updating			
6	*That the General Assembly amend General Statutes Section 10-326 to authorize the state colleges to provide undergraduate and graduate professional training as well as teacher education and liberal arts, and to provide continuation programs, for graduates of two-year technical and occupational programs, subject to approval of the Commission for Higher Education*	C G S		
7	*That, during the first biennium of the Master Plan, Connecticut adhere to a two-year moratorium on the establishment of new institutions, including the escalation of two-year university branches to four-year status*	G	G	
8	*That the Commission for Higher Education be required to furnish to the General Assembly, prior to its authorization and funding of any new institution, the educational justification of the need for its establishment based upon the Commission's studies of population density, facility, utilization, program inventory, availability of comparable programs in the region, and other criteria of need*		C G	
9	*That each institution, with the greatest possible involvement*		C H	

	Action Recommended	1974-75	1975-76	1976-79
	of the campus community, and in conjunction with its constituent board develop an up-to-date mission statement, subject to approval by the Commission for Higher Education, that will encompass the programs and services institutions are being expected to offer in the '70's			
10	*That proposed changes in mission be approved by the Commission prior to implementation*		C H	
11	*That, when an institution's mission is approved, the governing board of the constituent unit of which the institution is a part assume primary responsibility for developing programs to accomplish the agreed upon mission*			H
12	*That the Commission for Higher Education request the boards of the independent institutions to submit mission statements or similar information to be utilized for planning purposes*		C I	
13	*That the constituent units cooperatively with the Commission for Higher Education develop measurable criteria for evaluating each institution's performance, utilizing outside advisors as necessary*			C H
14	*That the statewide Information System (I/S) for Higher Education be used to generate data, according to established performance objectives and criteria, which can be used by evaluators in their determination of how*			C H

	Action Recommended	1974-75	1975-76	1976-79
	well institutions and the system as a whole are achieving their missions and in formulating recommendations as to how performance can be improved			
15	*That each institution, under the direction of its board and utilizing the services of persons, including minorities, both inside and outside the academic community, periodically evaluate the institution's achievement in performing its mission*		H	
16	*That regional planning become a major component of the overall planning and coordination of higher education in Connecticut*	C H		
17	*That P.A. 140 be amended to allow use of public funds in cooperative ventures of public and private institutions that jointly provide or share educational programs, facilities and services*		G H I	
18	*That P.A. 140 provide support for administrative services as well as increased grants for cooperative endeavors*		G I	
19	*That the State Board of Education be relieved of responsibility for the technical colleges and that new members be appointed to a Technical College Board*	G T		
20	*That the governing boards of all institutions offering a two-year program or component consider how they can expand*			R S T U

	Action Recommended	1974-75	1975-76	1976-79
	services to a region through combining efforts and resources			
21	*That the governing boards of the state technical colleges, the regional community colleges and the University, in conjunction with the Commission for Higher Education, study and report, prior to July 1, 1975, on methods for improving the interface of the three two-year components in order to expand opportunities in the respective regions*		C R S T U	
22	*That facilities and support levels for the regional community colleges be significantly improved*	G		
23	*That Connecticut begin development of comprehensive community colleges with a defined technical program element in geographical locations where there is no technical college in reasonable proximity*		R T	
24	*That courses be scheduled at the state's senior institutions in such a manner that state technical college students entering the junior year experience minimal difficulty in arranging a baccalaureate degree program*			S T U
25	*That the state technical colleges adopt the semester system in order to enhance program options for students who may wish to register for courses at more than one institution*		T	

(More)

	Action Recommended	1974-75	1975-76	1976-79
26	*That the Commission for Higher Education jointly with the State Department of Education extend the college student data base in the planned Information System to include all high school students in Connecticut starting with the ninth grade*		C O	
27	*That new student clientele be developed in response to the state's goal of providing maximum opportunity in higher education with the expectation of serving an additional 11,000 part-time students by 1978*		H I	H I
28	*That each board of trustees provide for a comprehensive review of existing space and its utilization*		H	
29	*That these reviews be used to validate space needs for capital budget requests*		H	
30	*That these reviews make full use of review techniques such as those described in the* Facilities Planning and Management Manuals *published by the Western Interstate Commission for Higher Education*		H	
31	*That each institution, utilizing a standing committee of faculty and administrators, provide for estimates of current and projected facilities needs and communicate these needs to its board of trustees*		H	
32	*That in every case where need is verified by board review, the alternatives of renovating,*		H	

	Action Recommended	1974-75	1975-76	1976-79
	leasing or regional sharing be investigated and reported along with capital requests			
33	*That the Commission for Higher Education seek legislation and appropriate funding to assure that institutions of higher education may purchase program services and lease nonpublic spaces as alternatives to the construction of new facilities*		C G	
34	*That every effort be made to locate new campuses on sites which will lend themselves to shared use with existing institutions*	C G H O		
35	*That, following approval of a request for major capital expenditures, the Commission for Higher Education, in cooperation with the Public Works Department and the Department of Finance and Control, establish procedures which involve these agencies, the appropriate board and institution in the process of planning, design and construction*	C H O		
36	*That all educational facilities be constructed with full recognition of the needs of the physically handicapped*	H O		
37	*That certain capital projects now classified as self-liquidating--such as student centers, dining halls and infirmaries--be removed from that category and that such existing projects be amortized at least in part*		G H O	

	Action Recommended	1974-75	1975-76	1976-79
	from general fund appropriations			
38	*That membership of the Subcommittee on Coordination of Planning include one representative from each of the constituent units in the public system, one from the Commission for Higher Education, one from the independent colleges and one from the proprietary schools*	C H I O		
39	*That, in implementing its responsibility for balanced statewide program offerings, the Subcommittee on Coordination of Planning shall*	C O U		
	a) Act as a catalyst in encouraging cooperation between institutions in each of the six planning regions designated by the Commission and in the establishment of consortia where study shows that some formal collaboration will best serve the needs of students			
	b) Take special note of programs offered by proprietary and nondegree-granting institutions in which the program content might be evaluated for college transfer credit, such as courses in accounting, design technology and nursing, among others			
	c) Encourage the constituent units to develop new programs to serve additional students, in particular those who do not now continue their education upon graduation from high school			

	Action Recommended	1974-75	1975-76	1976-79
40	*That the mission concept of program development be endorsed and implemented in the public system of higher education*	C H		
41	*That, after a consensus has been reached among the constituent units as to each institution's mission, the definitions of mission that are agreed upon and approved by the Commission for Higher Education, within the limitations of the statutes, be used as the basis for new program development and for the evaluation of performance*		C H	
42	*That all proposed program additions and changes be reported to the Subcommittee on Coordination of Planning for information purposes and for obtaining concurrence from that body that the new programs are within the defined missions*		C H O	
43	*That new programs being reported to the Commission be accompanied by a report of the reactions of other institutions in the same planning region*	C H I		
44	*That the institutions in each of the six regions, insofar as possible, mediate programmatic and geographic disagreements with respect to initiation of programs before referring the matter to the Subcommittee on Coordination of Planning*	H I		
45	*That the Subcommittee on Coordination of Planning review all proposed new programs for purposes of regional and statewide*	C		

	Action Recommended	1974-75	1975-76	1976-79
	coordination and to verify that programs comply with mission			
46	*That, when an institution proposes initiating a new program that is not within its defined mission, the Subcommitee on Coordination of Planning, reflecting its belief that the program should be introduced, recommend to the Commission that the mission statement be revised*	C H		
47	*That the constituent units and the Commission for Higher Education define criteria for identifying programs that are obsolete or unnecessarily duplicative*		C H	
48	*That for input to the Information System (I/S) each of the constituent units submit to the Commission for Higher Education, in a form prescribed by the Commission, an inventory of programs currently being offered and that the independent institutions be requested to submit a similar inventory*	C H		
49	*That the Commission for Higher Education maintain a complete and current inventory of existing programs*	C		
50	*That inventory reports from the constituent boards be accompanied by a listing of programs being deleted, merged or shelved, with identification of the criteria which were used in deciding upon the changes*		H	

	Action Recommended	1974-75	1975-76	1976-79
51	*That all institutions, public and private, be requested to submit annually to the Commission for Higher Education a five-year projection of the program changes they are considering*		C H I	
52	*That the Commission for Higher Education provide, on a continuing basis, to all institutions, public and independent, the most up-to-date information about emerging program needs*		C	
53	*That the Commission keep the public and the administrative and legislative branches of the state government apprised of program needs and the efforts being made to meet them*	C		
54	*That the Commission for Higher Education and the boards of trustees of the constituent units establish procedures for the performance evaluation of programs*			C H
55	*That each board of trustees, following the agreement on procedures, review 20 percent of each institution's programs yearly and provide the Commission for Higher Education with a report of its findings*		H	
56	*That the Commission for Higher Education and the constituent boards utilize these reports as a major basis for planning in the area of program development and offerings*		C H	
57	*That Connecticut seek to offer,*			

	Action Recommended	1974-75	1975-76	1976-79
	within the state's totality of offerings, a blend of academic and occupational learning programs that will serve all learners at all levels of post-secondary instruction in their quest for productive careers and rewarding lives	H I		
58	*That the Subcommittee on Coordination of Planning in conjunction with the Department of Education develop closer coordination between the continuing education programs offered by the colleges and those given by the high schools*	C O		
59	*That the institutions in each of the six regions publish a common directory or catalog describing the continuing education courses available in all institutions within the region and indicating the credits that can be earned by successful completion of each course*		H I	
60	*That the Commission for Higher Education encourage the constituent units to integrate work experience into the curriculum where appropriate and to develop ways to grant academic credit for work experience that is related to program content*	C H		
61	*That the constituent units consider expanding programs in international education, including student and faculty exchanges*	H		
62	*That Connecticut continue to participate in planning for a*	C E	C E	C E

	Action Recommended	1974-75	1975-76	1976-79
	regional veterinary medical school in the northeast and that it share with other states in the support of such a school	G U	G U	G U
63	*That the institutions preparing teachers continue to develop close relationships with the schools and with significant community groups including those representing minorities*	I S U		
64	*That Connecticut's institutions of higher education, in consultation with local citizen groups, assume major responsibility for providing the training component in diversified community service programs, including noncredit courses, that are responsive to unfilled citizen needs*	H I		
65	*That a high priority be given to community service programs that will reach children below college age and their parents to inform them and stimulate their interest in higher education and its accessibility in Connecticut*	H I O		
66	*That the Governor appoint a commission that will include representatives of the State Labor Department, the State Department of Commerce, the Office of State Planning, the State Department of Education, the higher education community and other cognate groups to determine what kinds of education are required to prepare students for life in the year 2000 and after*	C E H I O		

(More)

	Action Recommended	1974-75	1975-76	1976-79
67	*That the Board for State Academic Awards be funded at a level which will permit it to carry on activities leading to the granting of undergraduate credits and degrees on the basis of examinations*	A E G		
68	*That the Commission for Higher Education be authorized to award contracts to any post-secondary institution(s) in the state for pilot programs designed to develop and stimulate the use of nontraditional modes of instruction and to increase institutional productivity through the utilization of television, tape, radio and other technological aids to learning*		C H I	
69	*That each contract will include provision for independent evaluation of results*		C H I	
70	*That the Commission for Higher Education issue regulations for licensure of nontraditional undergraduate degree programs conducted by accredited institutions*		C	
71	*That the Commission for Higher Education, CHETA, and the Board for State Academic Awards seek and encourage cooperative arrangements with agencies in neighboring states for instructional uses of technology*		A C O	
72	*That the Commission for Higher Education encourage the public and private colleges in each*		C H I	

	Action Recommended	1974-75	1975-76	1976-79
	planning region to establish counseling centers for the explicit purpose of advising interested individuals with respect to the available programs and services, including nontraditional			
73	*That changes in the policy and administration of financial aid be made concurrently with the expansion of opportunities to earn credits and degrees by nontraditional means so that part-time and adult students may qualify for necessary assistance*		H I	
74	*That graduates of transfer programs in a community college be guaranteed a place in one of the public, four-year institutions in Connecticut and that a definite number of places be reserved for them*		R S U	
75	*That the public and independent institutions, in cooperation with the Commission for Higher Education, develop transfer policies that are equitable to students and that facilitate mobility between institutions*		C H I	
76	*That faculty members be involved extensively in the development of transfer policies*	H I		
77	*That the requirements for admission to upper-division programs be stated explicitly and communicated to students in two-year programs during their first semester*	R S T U		

(More)

	Action Recommended	1974-75	1975-76	1976-79
78	*That the terms of admission to upper-division programs and the transfer credits to be granted be reviewed with each tranfer student at the time of acceptance*	I S U		
79	*That the Commission for Higher Education publicize transfer policies and practices to the general public as well as to counselors and students*	C		
80	*That the Subcommittee on Coordination of Planning of the Commission for Higher Education in concert with the newly established Board for State Academic Awards formulate by the first biennial revision of the Master Plan, an agreement among institutions of higher education in Connecticut on transfer credit to be allowed for standardized examinations such as CLEP and for other less conventional methods of granting college credit*		A C H I	
81	*That all institutions review their general education and course distribution requirements to insure that they are not having an unnecessarily adverse effect on transfer students*		H I	
82	*That the Subcommittee on Coordination of Planning of the Commission for Higher Education assume the following responsibilities:*		C H I O	
	a) To examine the I/S data on student transfers into and out			

	Action Recommended	1974-75	1975-76	1976-79
	of institutions of higher education in Connecticut for the purpose of determining trends and identifying problems;			
	b) To report annually to the Commission on the trends in transfer, with projections of the number of spaces which should be reserved;			
	c) To call to the attention of institutions and their boards information that will assist them in reviewing their transfer policies and procedures;			
	d) To investigate problems of articulation between proprietary schools and other post-secondary institutions;			
	e) To seek to resolve problems and to answer questions concerning transfer that are brought to the SCP's attention			
83	*That each public board of trustees require the institutions under its jurisdiction to review current admissions policies to determine what criteria other than traditional quantitative measures are being used and, if only quantitative measures are used, to develop additional criteria for admissions*		H	
84	*That all institutions of higher education in the state increase their efforts to recruit minority students through their own admissions offices and*	H I		

	Action Recommended	1974-75	1975-76	1976-79
	through the Connecticut Talent Assistance Cooperative			
85	*That the Commission for Higher Education make grants to institutions from its discretionary funds to augment and expand supportive services such as counseling, tutoring, career guidance and placement*		C	
86	*That such grants be made according to criteria established jointly by the Commission for Higher Education and the governing boards*		C H	
87	*That there be minority representation on the committee that screens proposals and recommends the distribution of funds*		C H O	
88	*That the policies for the major state-supported program of student financial assistance be based primarily on financial need*		G	
89	*That the General Assembly provide additional funding for student financial assistance to enable increased numbers of citizens to pursue postsecondary education*	G		
90	*That any public institution which is not subject to Executive Order 11246 prepare an affirmative action plan consistent with the federal guidelines and according to state guidelines defined by the Commission for Higher Education and submit the plan to its board of trustees and to the Commission*		C H	

	Action Recommended	1974-75	1975-76	1976-79
91	*That the Commission for Higher Education and the boards of trustees exert efforts and make commitments to increase the numbers of minorities and women on their staffs*	C H		
92	*That all institutions of higher education comply with federal laws (especially Title IX of the 1972 Higher Education Act) regarding elimination of discrimination on the basis of sex*	H I		
93	*That each public institution provide child-care services for children of faculty, staff and students, in cooperation with community day-care and nursery school programs when possible, and that costs of such programs be subsidized in part by the state and by graduated charges to users based on ability to pay*	H		
94	*That the I/S System compile data by sex to facilitate monitoring of affirmative action plans*	C		
95	*That all college and university curricula incorporate the contributions and roles of women and that separate courses be organized about the central contributions of women to society*		H	
96	*That appropriate administrative and academic officers of each institution improve and update counseling for women*	H		
97	*That the system of higher educa-*			

	Action Recommended	1974-75	1975-76	1976-79
	tion in Connecticut strive to provide services equal or superior in quality and diversity to those states which, according to their level of support per FTE-student, are above the 75th percentile among the 50 states			E G
98	*That the level of funding for the Commission for Higher Education be an amount equal to one percent of the total budget of the other constituent units in the public system of higher education and that this amount be utilized for both the ongoing activities of the Commission, exclusive of legislatively mandated special projects, and for special grants to institutions to encourage innovative educational programs, to improve supportive services for students, to expand community service programs, and to foster research and development*		C E G	
99	*That the additional resources necessary to expedite development of the management information system (I/S) be made available and that the development of data relating to finance be given top priority*		C	
100	*That the General Statutes be amended so that the boards of trustees, in conjunction with the Commission for Higher Education, are responsible for recommending to the General Assembly any changes in tuition and/or fees*		C E G H	

	Action Recommended	1974-75	1975-76	1976-79
101	*That any raise in tuition be related to the cost of instruction and be accompanied by a comparable increase in student financial assistance*		C E G H	
102	*That steps be taken to reduce present fees or at least to prevent further increases in institutional fees, i.e., non-tuition, during the first two years of the Master Plan*		H	H
103	*That tuition be waived for both in-state and out-of-state full-time graduate assistants and fellows and prorated for part-time graduate assistants*		C E G H	
104	*That part-time matriculated undergraduate students in a public institution be charged the same tuition proportionately as full-time undergraduate students, even though the program being pursued is offered by the continuing education division*		C E G H	
105	*That funding of student financial assistance programs be sufficient to allow colleges to grant aid on a prorated basis to those part-time students in baccalaureate degree programs who have a proven need for such assistance*		C E G H	
106	*That institutions and the legislature take action to implement the above three recommendations (103-105) in 1975-76, including provision for the transfer of funds from the general fund to the educational extension fund*		C E G H	

	Action Recommended	1974-75	1975-76	1976-79
	of institutions to reimburse them for any reduction in income due to the registration of part-time undergraduate students			
107	*That the State of Connecticut immediately initiate and fund a student-aid grant program which, together with the federal student-aid programs, will insure that no person will be denied access to higher education for reasons of inadequate personal or family finances*		C E G H	
108	*That the program, while it may encourage a moderate amount of work or borrowing, be built primarily upon grants*		G	G
109	*That the amount of student-aid grants vary inversely with family income and be tapered so that they do not end abruptly at a predetermined family income level without taking into account the number of children, the current state of indebtedness, costly health programs and other factors*		C G O	C G O
110	*That following the implementation of a comprehensive student aid program, the state discontinue the present State Scholarship Program, the Restricted Educational Achievement Program and the College Continuation Grant Program in their present form but maintain a moderate fund to provide encouragement and incentive for students of outstanding academic achievement*		G	

	Action Recommended	1974-75	1975-76	1976-79
111	*That a Student Financial Aid Commission be established to replace the State Scholarship Commission, with the new commission assuming responsibility for coordinating state efforts with the student aid provisions of the Federal Higher Education Amendments of 1972*	G		
112	*That the General Assembly continue to increase the funding of Public Act 73-551 for students in independent colleges to a level of $4.5 million in 1975-76*	G I	G I	
113	*That a budget task force be set up to include members of higher education and of the Budget Division with the goal of developing a single abbreviated budget document designed to adequately serve both the needs of the Budget Division and of higher education and at the same time reduce the time required by higher education units in compiling the budget data, and that this abbreviated budget document be used for the 1975-76 budget preparation*		C E H O	
114	*That the period of budget preparation begin no later than March 1*		C H O	
115	*That future budget recommendations incorporate directions and objectives for funding of the primary programs (instruction, research, public service) of each unit, and that such recommendations be based, at least partially, upon compara-*		C H	

	Action Recommended	1974-75	1975-76	1976-79
	tive cost analyses of peer institutions in other states			
116	*That these objectives allow for a proportional adjustment of the funding of primary programs dependent upon the constraints of the statewide economic capacity of support in any year*		C H	
117	*That the Governor and General Assembly provide broad spending guidelines to the constituent units of public higher education, to be monitored and controlled by the boards of trustees and the administrative officers of each unit, and that unnecessary pre-audit controls of day-to-day institutional decisions by the Department of Finance and Control be discontinued*		C E G H O	

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APPENDIX

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EXHIBIT 1

MANAGEMENT/POLICY GROUP

Roger B. Bagley
Chairman
Board of Trustees
Regional Community Colleges

William Horowitz
Chairman
Board of Trustees
State Technical Colleges

Robert A. Kidera, President
Connecticut Conference of
Independent Colleges

Donald H. McGannon
Chairman
Commission for Higher Education

Bernice C. Niejadlik
Chairman
Board of Trustees
State Colleges

Gordon W. Tasker
Chairman
Board of Trustees
University of Connecticut

Executive and General Assembly Liaison

Representative Howard M. Klebanoff
Stuart Smith, Office of the Governor
Senator Ruth O. Truex

REVIEW AND EVALUATION GROUP

Samuel M. Brownell
Consultant on Urban Education
Yale University

Adolf G. Carlson, Commissioner
Department of Finance and Control

John J. Driscoll, President
Connecticut State Labor Council
AFL-CIO

The Reverend Edwin R. Edmonds
Dixwell Avenue Congregational Church
New Haven

Ruben Figueroa, Commissioner
Department of Community Affairs

Theodore F. Hogan, Jr., Chairman
State Commission on Human Rights
and Opportunities
New Haven

Arthur Howe
Lyme

Carmine R. Lavieri, Secretary
Connecticut Bar Association
Winsted

Laura M. Miller
Executive Director
Connecticut Association of
Boards of Education, Inc.
Hartford

Dennen Reilley
West Hartford Public Schools
West Hartford

Gloria Schaffer
Secretary of the State

Mabel Murphy Smythe
Phelps-Stokes Fund
New York

Arthur L. Woods, President
Connecticut Business and
Industry Association, Inc.
Hartford

EXHIBIT 2

SPECIAL RESOURCE PERSONS

Horace H. Brown
Acting Managing Director
Planning and Budgeting Division
Department of Finance and Control
State of Connecticut
Hartford

William Fuller, Director
Higher Education Facilities
Planning Division
The University of the
State of New York
The State Education Department
New York, New York

Lyman A. Glenny
Associate Director
The Center for Research
and Development in Higher
Education
University of California
Berkeley, California

John D. Millett
Vice President and Director
Management Division
Academy for Educational
Development, Inc.
Washington, D.C.

Rexford G. Moon Jr.
Senior Vice President
and Director of Studies
Academy for Educational
Development, Inc.
New York, New York

MASTER PLAN STAFF ASSOCIATES

David Basch
State Colleges

Brian H. Burke
University of Connecticut

Joseph Dunn
Central Connecticut State
College

W. Lewis Hyde
Connecticut Conference of
Independent Colleges

Stanley Macklow
Norwalk State Technical College

Walter McKain
University of Connecticut

Bernard Shea
Regional Community Colleges

EXHIBIT 3

RESOURCE GROUP 1: GOALS

Chairman: Thomas F. Malone
University of Connecticut

Staff Associate: W. Lewis Hyde
Connecticut Conference of
Independent Colleges

Katherine Bourn
Andover

Elaine Bourret
Greater Hartford
Community College

Walter T. Brahm
State Library

William F. Brazziel
University of Connecticut

Mrs. Oliver Butterworth
West Hartford

Mrs. Fred Cazel
Storrs

Frank Chiarenza
University of Hartford

John Clearly
Hartford Times

Paul Collins
Weaver High School
Hartford

Frank Donovan
General Electric Co.
Bridgeport

Warren Doyle
University of Connecticut

Donald B. Engley
Yale University

Wayne English
Hartford State Technical
College

Zoltan Feuerman
United Aircraft Training Center
Hartford

Alfred Fitt
Yale University

Mrs. Yakira Frank
Stamford

Lucy T. Hammer
Branford

Martha Hanf
West Hartford

John A. Healey
University of Connecticut
Waterbury Branch

Curtis E. Jennings
Central Connecticut State
College

Bryce Jose
Southern New England Telephone Co.
New Haven

Lothar Kahn
Central Connecticut State College

Anthony Keller
Executive Director
Connecticut Commission on the Arts

cont'd . . .

Mrs. John G. Lee
Farmington

Stanley Leven
West Hartford

Phillip Liguori
Briarwood

Thurston E. Manning
University of Bridgeport

Sister Mary Claire Markham
St. Joseph College

John McDonald
University of Connecticut

Mrs. Theodore Meyer
Easton

Marshall Montgomery
New Canaan

Paul Nackin
Stamford

William Olsen
The Hotchkiss School
Lakeville

Sherwood Prothero
Norwalk Chamber of Commerce

Elliot Ressler
Waterbury Regional Center
Cheshire

Robert N. Rue
Mohegan Community College

Roderick M. Scott
Perkin-Elmer Corp.
Danbury

Mrs. Albert Sims
Riverside

Wesley Slate
Office of Student Affairs
Eastern Connecticut
State College

Sheila Tobias
Wesleyan University

Robert Vogel
Greater Hartford Consortium

Annie Warren
Hartford

Charles R. Webb
Eastern Connecticut State
College

Donald R. Welter
Thames Valley Technical
College

Observers

Mortimer Appley
University of Massachusetts
Amhurst, Massachusetts

William Ferrante
University of Rhode Island
Kingston, Rhode Island

The following members were
not able to serve the
entire period:

Milton DeVane
New Haven

Leo Schneiderman
Eastern Connecticut State College

EXHIBIT 4

RESOURCE GROUP II: ENROLLMENTS

Chairman: Dorothy Schrader
Southern Connecticut
State College

Staff Associate: Stanley Macklow
Norwalk State Technical
College

Tom Bowler
Central Connecticut
State College

John Carey
Tunxis Community College

Johnie M. Floyd
Central Connecticut
State College

Patricia Hendel
Connecticut College

Frank Kelly
Waterbury State
Technical College

Susan Lincoln
South Central Community College

Joseph Palker
Torrington Company

Mrs. Frederick Reimers
Branford

Gerard Rucci
Connecticut State
Employment Service

Mrs. Alexander F. Smith
Middlesex Community
College

Gwendolyn Speaks
Waterbury State
Technical College

John W. Vlandis
University of Connecticut

Truman Warner
Western Connecticut
State College

David Weill
Southwestern Connecticut
Library System
Fairfield

EXHIBIT 5

RESOURCE GROUP III: FACILITIES

Chairman: Robert H. Mutrux
Fletcher-Thompson Inc.

Staff Associate: David Basch
State Colleges

Stan Gaby
Mohegan Community College

Paul J. Goines
Metropolitan Life
Insurance Co.
West Hartford

Frank Gomes
Post Junior College

Carroll Hughes
Assistant Commissioner
Public Information in Education
Dept. of Environmental Protection

David N. LaBau
Architect
Golden, Thornton
& LaBau, Inc.

Wallace Lee
Western Connecticut State College

Frederick W. Lowe, Jr.
Manchester Community College

Robert Meyers
Career Training Institute
Wethersfield

Eileen Patton
University of Connecticut

Thomas U. Raimondi
Hartford State
Technical College

Douglas Reid
Bridgeport Public Library

James W. Robertson
Quinnipiac College

John Rohrbach
University of Connecticut

Barbara Tirola
Westport

Reginald W. Washington
Eastern Connecticut
State College

Margaret S. Wilson
Eastern Connecticut
State College

Benn T. Winn
South Central
Community College

EXHIBIT 6

RESOURCE GROUP IV: PROGRAMS

Chairman: Harold W. See
University of Bridgeport

Staff Associate: Joseph R. Dunn
Central Connecticut State College

Frederick Adams
School of Allied Health
University of Connecticut

Claire M. Berg
University of Connecticut

Kay V. Bergin
Mattatuck Community College

Sister Helen Bonin
Annhurst College

Robert J. Brunell
President
Connecticut State Federation
of Teachers, AFL-CIO

Thomas P. Connors
Manchester Community College

Nancie Felt
Norwalk State Technical College

Eloise Harris
Community Renewal Team
Hartford

Chandler Howard
Housatonic Community College

Stanley S. Katz
Quinnipiac College

Nathan B. Lerner
Southern Connecticut
State College

Ralph Lightfoot
Sikorsky Aircraft
Stratford

Edward J. Liston
Housatonic Community
College

Robert E. Lorish
Connecticut College

Rabbi Jerome Malino
Danbury

Walter Marcus
West Hartford

Peter W. McFadden
University of Connecticut

Joseph Murphy
Associate Commissioner of
Education and Director
of Vocational Education
State Department of
Education

Shelley Namer
University of Bridgeport

Barbara Schutt
Mohegan Community
College

William L. Wallace
Olin Corp.
Stamford

cont'd . . .

Marie White
Central Connecticut
State College

Robert E. Simpson
Vice President, Public
Affairs, Connecticut
Business and Industry
Association

SPECIAL CONSULTANTS

Thomas A. Smith
Trinity College

Jere W. Clark
Southern Connecticut
State College

Howard Zettler
Central Connecticut
State College

Larrie Dean
Quinnipiac College

EXHIBIT 7

RESOURCE GROUP V: IMPROVEMENT OF OPPORTUNITY

*Chairman: Rev. William C. McInnes, S. J.
Fairfield University

**Chairman: H. B. Jestin
Central Connecticut State College

Staff Associate: Bernard Shea
Regional Community Colleges

Robert Allison
Manchester Community College

Bernard Berner
Veterans Administration
Hospital
West Haven

Arthur J. Brissette
Sacred Heart University

William Brown
Executive Director
Urban League of Greater Hartford

Doris Cassiday
Stamford

Joseph Chepaitis
University of New Haven

Bice Clemow
Editor, *West Hartford News*

Edward F. Cranz
Connecticut College

Harold Davis
Southern Connecticut State
College

Kenneth E. Derego
Waterbury State Technical College

Hilda E. Diaz
Hartford

Roy B. Dion
State Personnel Department

Ben Dixon
Education/Instruccion
Hartford

James A. Dorsey
State Department of Education

Lillian Erb
Judge of Probate
Groton

Jonathan F. Fanton
Yale University

Douglas M. Fellows
University of Hartford

Robert H. Fenn
Manchester Community College

John G. Freymann, M. D.
The Hartford Hospital

Galvin G. Gall
University of Connecticut

Carolyn Gillespie
Eastern Connecticut State
College

Peter Goldmark
Goldmark Communications Corp.
Stamford

* through January 1973
** February 1973

cont'd . . .

Edmund Gubbins
State Department of
Correction

Stanley Harasimowitz
Thames Valley State
Technical College

Edward M. Harris
Pitney Bowes, Inc.
Stamford

Michael J. Herrick
Housatonic Community College

Felix Irizarry
University of Hartford

Merryl Jackson
West Haven

Frank L. Juszli
Norwalk State Technical
College

Evelyn G. Lewis
State Department of
Education

Anthony L. Masso
Connecticut State Labor
Council, AFL-CIO

Reinaldo Matos
New England Program in
Teacher Education

Robert E. Patricelli
Greater Hartford Process

Michael Perillo
Southern Connecticut
State College

Carrie Perry
Ambulatory Health Care
Hartford

Leon J. Richelle
University of Connecticut

Earl Shepherd
The Everywhere School
Hartford

Arthur L. Singer
Alfred P. Sloan
Foundation
New York, New York

Paul K. Taff
Connecticut Public
Television
Hartford

David Wax
New England Board of
Higher Education
Wellesley, Massachusetts

EXHIBIT 8

RESOURCE GROUP VI: TRANSFER

Chairman: Edgar F. Beckham
Wesleyan University

Staff Associate: Brian H. Burke
University of Connecticut

Paul Beeching
Central Connecticut State College

Shirley Belluardo
University of Connecticut

Mary Brackett
Norwalk Community College

Dominic Buonocore
Waterbury State Technical College

John R. Burton
Manchester Community College

Ann Dickens
University of Connecticut

Regina M. Duffy
Northwestern Connecticut Community College

June Goodman
Danbury

Paul S. Hines
Western Connecticut State College

Errol F. Hosein
Board Member C.A.D. U.A.W.

Thomas A. Kelly
University of Connecticut

Robert Lougee
University of Connecticut

Charles Mathews
Wesleyan University

Thomas C. Mayers
Olin Corporation
Stamford

Juan Ramos
Connecticut Mental Health Center
New Haven

Harold Schwede
West Redding

Jacqueline Sulinski
Central Connecticut State College

Special Consultants

Louise Astin
Wesleyan University

Merrily Baack
Middlesex Community College

Ernest Beals
University of Massachusetts

Herman Beckert
Eastern Connecticut State College

Romeo Bernier
Connecticut Commission for Higher Education

Gertrude Braun
Western Connecticut State College

cont'd . . .

Harold Burke
Western Connecticut
State College

Barbara Hart
Central Connecticut State
College

Robert Hewes
University of Connecticut

Richard Judd
Central Connecticut State
College

Frederick Kintzer
University of California
Los Angeles

Howard Klebanoff
State Representative

Andrew McKirdy
Connecticut Regional
Community Colleges

Evann Middlebrooks
Southern Connecticut State
College

Charles Owen
University of Connecticut

Gail Patrick
Manchester Community College

Robert Porter
Southern Connecticut State
College

Bernard Shea
Regional Community Colleges

Gilbert Teal
Western Connecticut
State College

Thomas Vitelli
Southern Connecticut
State College

Merrill Walrath
Western Connecticut
State College

Warren Willingham
College Entrance Examination
Board
Princeton, New Jersey

EXHIBIT 9

RESOURCE GROUP VII: EQUAL OPPORTUNITY

Chairman: Joseph Downey
Community Progress Inc.
New Haven

Staff Associate: Linwood Robinson
Special Consultant
Commission for Higher Education

Floyd Bass
University of Connecticut

Arthur Banks
Greater Hartford Community College

Bradley Biggs
Middlesex Community College

Raymond Blanks
Shanti School
Hartford

Carlton Boyd
Connecticut Talent Faculty Search

Roy L. Brooks
Yale University Law School

Enrique Brown
Yale University Divinity School

Ernestine Brown
Connecticut College

Herbert Cohen
Bridgeport

Francis Coleman
State Department of Children & Youth Services

Norman Davis
University of Connecticut

Barbara DeBaptiste
Mattatuck Community College

Linda Edgerton
Mohegan Community College

Michael Francoeur
R.M. Francoeur and Associates, Inc.
Hartford

Lewis A. Fyles
Hartford

George Harris
Assistant Superintendent of Schools
New Haven

Theodore Hogan
Chairman, State Commission on Human Rights and Opportunities

Myles Hubbard
Bloomfield High School

Trudy Johnson
Department of Community Affairs
Hartford

Raymond Lopes
State Department of Correction

cont'd . . .

Albert Martin
Central Connecticut
State College

Pedro Melendez
South Central Community
College

Phillip Powell
Yale University

Alfredo Ribot
Bridgeport

Maria Rivera
University of Hartford

Jacqueline Schaeffer
Hartford

Mitzi Silver
New Haven

John Stinson
Newington

Francisco Velez
President, Latin
American Society
Meriden

Constance Terry Wilds
Western Connecticut
State College

Barbara D. Zow
University of
Connecticut

EXHIBIT 10

RESOURCE GROUP VIII: FINANCE

Chairman: Edwin L. Caldwell
Connecticut Bank & Trust Co.

Staff Associate: Brian H. Burke

Brenda Bean
University of Connecticut

Raymond R. Beauregard
Northeast Utilities Service
Company

Harry J. Cunha
Middlesex Community College

Jerome P. Cunningham
Wesleyan University

Ward S. Curran
Trinity College

Fred J. Doocy
Hartford National Bank

Lowell G. Field
University of Connecticut

Kenneth W. Fogg
Waterbury State Technical
College

Shirley Foster
Hartford

Robert H. Franklin
Connecticut Public Expenditure
Council

Edward Friedman
(Designate for A. M. Woodruff)
University of Hartford

Eleanor Gill
University of Connecticut

Ralph M. Goglia
New Haven

Milton L. Jackson
Opportunities
Industrialization, Inc.
New Haven

Algin B. King
Central Connecticut
State College

James S. Lloyd
Middlesex Community College

Paul Perregeaux
Connecticut Bank &
Trust Company

Warren C. Stoker
Rensselaer Polytechnic
Institute of Connecticut

Thomas Sullivan
Thames Valley State
Technical College

Thelma Waterman
Connecticut College

Archibald M. Woodruff
University of Hartford

EXHIBIT 11

BRIEFS

Comments Submitted to the Commission

Brief Number	Author
001	Thurston E. Manning University of Bridgeport
002	Daniel McLaughlin Asnuntuck Community College
003	Edith DeBonis Faculty Senate, Southern Connecticut State College
004	Leonid V. Azaroff University of Connecticut
005	Searle F. Charles Board of Trustees for Regional Community Colleges
006	Martin B. Robertson Manchester
007	Searle F. Charles Board of Trustees for Regional Community Colleges
008	Long-Range Planning Committee, with the assistance of the faculty and students Southern Connecticut State College
009	Searle F. Charles Board of Trustees for Regional Community Colleges
010	Faculty The College of Liberal Arts & Sciences University of Connecticut
011	Claire M. Berg University of Connecticut
012	Thomas F. Malone University of Connecticut

Brief Number	Author
013	Donna Diers Yale University
014	Thomas A. Kelly, Jr. Associated Student Government University of Connecticut
015	Fiscal Policy and Planning Committee of CHE
016	John H. Heller George H. Micky New Engiand Institute
017	Faculty, School of Education University of Connecticut
018	Robert H. Franklin Connecticut Public Expenditure Council
019	William S. Glazier Ecoliminal Communication Laboratory
020	Board of Trustees for Regional Community Colleges
021	Board of Trustees for Regional Community Colleges
022	Colloquium Participants September 25, 1972
023	Margaret A. Brown Barbara Collins Ada Lambert Regional Community Colleges
024	Charles Ford Sacred Heart University
025	Stanley L. Smith Avery Point Branch University of Connecticut
026	Board of Trustees for the University of Connecticut
027	Faculty Senate Manchester Community College

Brief Number	Author
028	Board of Trustees for the State Colleges
029	Peter Dehlinger Avery Point Branch University of Connecticut
030	Thurston E. Manning University of Bridgeport
031	Theodore E. Lockwood Trinity College
032	Richard F. Blake Board of Education Stratford
033	Charles E. Ford Sacred Heart University
034	Harold W. See University of Bridgeport
035	Dale L. Ward Housatonic Community College
036	John A. Barone Fairfield University
037	John F. Marr, Jr. St. Paul Catholic High School Bristol
038	Arthur Carlson Regional Advisory Council Thames Valley State Technical College
039	Women's Committee Central Connecticut State College
040	Barbara Donaho Hartford Hospital
041	Helen G. Chambers University of Connecticut

Brief Number	Author
042	Searle F. Charles Board of Trustees for Regional Community Colleges
043	Jo Ann Ellsworth Head Start Program New Haven
044	Academic Planning Committee Western Connecticut State College
045	Charles B. Kinney Mattatuck Community College
046	Robert U. Massey Steering Committee School of Medicine Council University of Connecticut
047	Ann Garrett Robinson South Central Community College
048	Milton Goldstein Norwalk Community College
049	Long-Range Planning Committee Southern Connecticut State College
050	Merrily W. Baack Middlesex Community College
051	Edith DeBonis Southern Connecticut State College
052	Council of Community College Presidents
053	J. David Hankins President's Commission on Handicapped Student Affairs University of Connecticut
054	W. R. Griswold Hartford Branch University of Connecticut

Brief Number	Author
055	Searle F. Charles Board of Trustees for Regional Community Colleges
056	Kenneth W. Fogg for the Professional Staff Waterbury State Technical College
057	Executive Committee of the Faculty Senate University of Connecticut
058	Thomas P. Connors Manchester Community College
059	John R. Crowley Janet Small John R. Burton Arthur C. Cloutier Manchester Community College
060	Robert C. Vater Steering Committee Congress of Connecticut Community Colleges
061	W. R. Griswold Hartford Branch Faculty University of Connecticut
062	James U. Rundle Middlesex Community College
063	State Technical Colleges
064	H. Haines Brown Central Connecticut State College
065	David Newton Lee Creer Central Connecticut State College
066	David N. Gidman Mattatuck Community College
067	Gail Shea Committee on the Status of Women

Brief Number	Author
068	Jere W. Clark Southern Connecticut State College
069	Milton Goldstein Norwalk Community College
070	Evann Middlebrooks Southern Connecticut State College
071	William Sanders State Technical College Administrative Council
072	Carlton D. Blanchard New London
073	Connecticut Commission on Human Rights and Opportunities
074	Jeanne G. Bobrowiecki Plantsville
075	Donald Welter Thames Valley State Technical College
076	Richard C. Berry Connecticut Association of Community College Advisory Councils
077	Robert E. Miller Quinebaug Valley Community College
078	Bruce E. Bradford Eastern Connecticut State College
079	Bernard MacDonald Eastern Connecticut State College
080	Irving J. Stolberg New Haven
081	Mary Griswold New Haven
082	Long Range Planning Committee Southern Connecticut State College

Brief Number	Author
083	Sandra M. Donaldson Angela Crescenzi Willimantic
084	Francis H. Horn Albertus Magnus College
085	Jere W. Clark Southern Connecticut State College
086	David D. Beatty Greater Waterbury Chamber of Commerce
087	Rocco G. Ciesco Torrington
088	George E. Graff Rockville
089	Frank Samuelson Regional School District #1 Falls Village
090	Haines Brown Central Connecticut State College
091	P. Diner Stamford Branch University of Connecticut
092	Students University of Connecticut
093	Richard Phillips Stamford
094	Louisa D. Kirchner Stamford Branch University of Connecticut
095	P. Edmond Power Harwinton
096	Loralee Huston Urban League of Greater Hartford

Brief Number	Author
097	Ben Dixon Education/Instrucción, Inc.
098	Robert N. Rue Mohegan Community College
099	Ruth Wilson Waterbury
100	Paul F. Smith Watertown
101	Arthur D. Carlson Regional Advisory Council Thames Valley State Technical College
102	Henry J. Van de Stadt West Hartford
103	Ann Vilkas Hartford
104	Marian Imler Hartford
105	Arthur R. Riel, Jr. Stratford
106	William R. Petricone Torrington
107	Michael Pernal Eastern Connecticut State College
108	Samuel M. Brownell Yale University
109	Pauline Quirion Hartford
110	Mrs. Gerard Quirion Hartford
111	Ronald E. Zooleck Chamber of Commerce of Northwest Connecticut

Brief Number	Author
112	James Q. Holigan Waterbury
113	Charles H. Russell Mattatuck Community College
114	Helen Mulkeen Norwich
115	Phillip Kaplan University of New Haven
116	Searle F. Charles Board of Trustees for Regional Community Colleges
117	John M. Eichrodt Western Connecticut State College
118	John Mitovich Stamford Area Commerce and Industry Association
119	NAACP Greater New Haven Branch
120	Long-Range Planning Committee Southern Connecticut State College
121	Robinson A. Grover Torrington Branch University of Connecticut
122	Loralee Huston Urban League of Greater Hartford
123	George E. Graff Rockville
124	W. DeHomer Waller South Central Community College
125	Paul R. Shilling Mattatuck Community College
126	Dale Ward Housatonic Community College

Brief Number	Author
127	John M. Eichrodt Western Connecticut State College
128	University Senate University of Connecticut
129	Student Senate Central Connecticut State College
130	Harold F. Schwede West Redding
131	Robert E. Miller Quinebaug Valley Community College
132	Herbert Harris Connecticut Manpower Executives Association, Inc.
133	Student Legislative Assembly Southern Connecticut State College
134	Gourie B. Mukherjee Central Connecticut State College
135	Margaret Brown Ada Lambert Paul Brown Norwalk Community College Federation of Teachers
136	Inter-Area Residents' Council University of Connecticut
137	Searle F. Charles Board of Trustees for Regional Community Colleges
138	Long-Range Planning Committee Southern Connecticut State College
139	Russell E. Jacobson Weatogue
140	W. Richard Krall South Central Community College
141	Local 2316 American Federation of Teachers, AFL-CIO

Brief Number	Author
142	Clinton E. Tatsch Board of Trustees for State Technical Colleges
143	Searle F. Charles Board of Trustees for Regional Community Colleges
144	W. DeHomer Waller South Central Community College
145	Peter I. O'Hara Norwalk Community College
146	Everett I. L. Baker Norwalk Community College
147	Eugene A. Marconi Torrington Branch University of Connecticut
148	Richard E. Vizard Manchester Community College
149	William T. Brodnitzki Northwestern Connecticut Community College
150	John T. Boland Quinebaug Valley Community College
151	Ellis A. Hagstrom Quinebaug Valley Community College
152	Ada Lambert Congress of Connecticut Community Colleges
153	Alice V. Meyer Mary Nason American Association of University Women
154	Robin McGilvray Central Connecticut State College
155	Robert A. Fischer, Jr. Connecticut Audio-Visual Education Association

Brief Number	Author
156	F. Don James Central Connecticut State College
157	Sholom Bloom State Department on Aging
158	Gail Shea Committee on the Status of Women
159	Lois J. Klee Quirebaug Valley Community College
160	John H. Ziegler Quinebaug Valley Community College
161	W. Richard Krall South Central Community College
162	Regina M. Duffy Northwestern Connecticut Community College
163	Thomas R. Fitzgerald, S. J. Fairfield University
164	Bruce E. Bradford Eastern Connecticut State College
165	Thomas P. Connors Manchester Community College
166	Robert H. Fenn Manchester Community College
167	Virginia Pettiross Middlesex Community College
168	Student Advisory Board Regional Community Colleges
169	Board of Councilmen of the City of Torrington
170	Steering Committee Congress of Connecticut Community Colleges

Brief Number	Author
171	Searle F. Charles Board of Trustees for Regional Community Colleges
172	Ancillary Subcommittee Committee on the Status of Women
173	Carol Childs Suffield
174	Norma A. Jorgensen Trustee, University of Connecticut
175	Connecticut Higher Education Television Association Bridgeport
176	Manson Van B. Jennings Southern Connecticut State College
177	Milton Goldstein Norwalk Community College
178	Committee to React to Master Plan Eastern Connecticut State College
179	Linda Mazer East Granby
180	Robert Franklin Connecticut Public Expenditure Council, Inc.
181	Doug Wardwell Central Connecticut State College Extension Division
182	Long Range Planning Committee Southern Connecticut State College
183	Robert W. Lougee University of Connecticut
184	Students University of Connecticut
185	Robert J. Healey Council on Human Resources Connecticut Hospital Association

Brief Number	Author
186	Richard Schmelzer Troy, New York

EXHIBIT 12

MEETINGS HELD TO DISCUSS THE MASTER PLAN

Sponsoring Group	Date	Location
Manchester Community College Faculty and Staff	10/23/72	Manchester
Western Connecticut State College Faculty and Staff	11/1/72	Danbury
Southern Connecticut State College Faculty and Staff	11/15/72	New Haven
University of Connecticut Faculty Senate	1/22/73	Storrs
Women's Service Bureau	1/26/73	Hartford
University of Connecticut, Stamford Faculty	1/30/73	Stamford
Quinebaug Valley Community College Regional Advisory Council	2/13/73	Danielson
South Central Community College Faculty and Staff	3/15/73	New Haven
CHE Planning Region C Public Meeting	3/20/73	New Haven
Norwalk and Housatonic Community Colleges Faculty and Staff	3/27/73	Norwalk
CHE Planning Region F Public Meeting	3/28/73	Bridgeport
CHE Planning Region D Public Meeting	4/4/73	New London
CHE Planning Region B Public Meeting	4/11/73	New Britain
Asnuntuck Community College Regional Advisory Council	4/12/73	Enfield
University of Connecticut, Waterbury Mattatuck Community College Waterbury State Technical College	4/16/73	Waterbury

cont'd . . .

Sponsoring Group	Date	Location
Tunxis Community College Faculty and Staff	4/18/73	Farmington
CHE Planning Region E Public Meeting	4/23/73	New Haven
Greater Hartford Community College Faculty and Staff	4/24/73	Hartford
Connecticut Education Association	4/27/73	Hartford
Connecticut Association of Collegiate Registrars	5/4/73	Wallingford
Connecticut Manpower Executives Association and the Higher Education Center for Urban Studies	5/8/73	Bridgeport
American Association of University Women Fairfield County Chapter	5/9/73	Stamford
Norwalk State Technical College Faculty and Staff	5/18/73	Norwalk
CHE Planning Region D Public Meeting	6/22/73	Norwich
University of Connecticut Faculty	6/22/73	Storrs
Radio Station WBIS Interview	8/28/73	Bristol
Bridgeport Area Chamber of Commerce	10/1/73	Bridgeport
New England Association of Schools and Colleges Connecticut Regional Meeting	10/2/73	New London
Public Meeting	10/13/73	New London
Public Meeting	10/16/73	Willimantic
Public Meeting	10/17/73	Norwalk
Public Meeting	10/18/73	New Haven

cont'd . . .

Sponsoring Group	Date	Location
Television Station WTIC Interview	10/19/73	Hartford
Television Station WHNB Interview	10/19/73	West Hartford
Public Meeting	10/20/73	West Hartford
Public Meeting	10/21/73	Waterbury
Connecticut Council on Higher Education	10/24/73	New Haven
Connecticut State Federation of Teachers	10/26/73	Cheshire
NAACP Annual Branch Convention	10/27/73	New Britain
American Jewish Committee Greater Hartford Chapter	11/12/73	Hartford
Southern Connecticut State College Students	11/7/73	New Haven
Manchester Community College	11/8/73	Manchester

EXHIBIT 13

ENROLLMENT PROJECTION METHOD

To determine the number of Connecticut students who will be seeking admission to Connecticut colleges as full-time undergraduates for the period 1973-1980

Since the Commission for Higher Education was established in 1965, it has projected student enrollment for all the state's colleges and universities. Estimating the number of students who will be seeking higher education is a necessary task for the Commission to perform. During the latter part of the 1960's consistent factors were at work which resulted in projections which closely approximated actual enrollments. Since 1970 these same factors have taken on inconsistent and nonpredictable trends with the general result that projections which extend beyond a very few years have become less accurate.

The enrollment projections which follow have been made using accepted procedures and the best available data. Adjustment of the projections is a continuous concern of the Commission and the method employed allows annual updating when changing conditions make this necessary. Variables such as student attitudes toward higher education, parental desire that children acquire degrees and the effects of an inflationary economy are virtually impossible to predict. Each fall, however, the measurable results of these factors upon college enrollment become known and the new data can be factored into a projection model.

METHOD USED

The method used in making these projections is known as the cohort survival technique. In essence, what this technique involves is a count of the population of students who will be approaching college age during the coming decade and an application of the latest values of certain parameters in an effort to project the numbers who will be

seeking admission to college in the future.

The projection method starts with the ninth grade population in the public high schools in Connecticut. The research department then projects the number of these students who will graduate from high school in four years. To this number is applied the latest ratio, called the continuing rate, of those high school graduates who go directly to college. This gives an estimate of the "freshman demand" which in turn is extended to project total undergraduate enrollment. Adjustments are made for returning veterans and for transfer students and a final figure of a total demand for undergraduate enrollment is calculated. From this total is subtracted the "net out-migration" of Connecticut students. This number is the difference between the total number of Connecticut students who leave the state to continue their higher education and the number of out-of-state students who come to Connecticut for their studies.

BASIC ASSUMPTIONS

1. A fundamental assumption is that the percent of students continuing their education will level off with only a slight additional decrease for the period through 1980. For example, in 1970, 41.4% of the public high school graduates went on to full-time study in four-year colleges. In 1971 this decreased to 39.1%, and in 1972 to 37.7%. This study assumes that this percentage will level off at 37.0% and will not fall below this figure.

2. A second major assumption is that the attrition of those students who start college will increase slightly. This attrition is measured by a "retention factor." The retention factor is used to extend freshman demand to undergraduate enrollment.

3. The third major assumption is that the net out-migration of Connecticut students to the other forty-nine states will remain virtually constant during the projection period. In 1968 the Office of Education in Washington conducted a survey which contained the in- and out-migration of students to and from each state in the union. At that time the net out-migration of Connecticut students who were full-time undergraduates was 16,000. The projection attached estimates that the present net out-migration is 15,000 and will decrease to approximately 14,000 over the period covered.

DETAILS OF THE PROJECTION METHOD

The attached work sheets show the calculation of the final enrollment

projections for full-time undergraduates. One is for the four-year colleges, the other for the two-year colleges. Below is a brief discussion and explanation of the work sheet, column by column.

Column 1. These are the projections of high school graduates made by the CHE. Basic data for these projections are provided by the State Department of Education. The method involves applying nonattrition rates to ninth grade population, year by year, to estimate the number of high school graduates four years later. The factor .825 is applied to a ninth grade population as an estimate of the number who will graduate. The number of graduates from the private secondary schools is an estimate made by the State Department of Education and based upon a percentage of the public high schools. In the past these estimates of high school graduates have been accurate to within 1%.

Column 2. From the records available in the State Department of Education, the percent of public and private high school graduates who continue to colleges is available. This column makes one of the major assumptions of the projection method: that the decline in continuing rate during the past two years will level off in the case of the four-year colleges and will level off and slightly increase in the case of the two-year colleges. In the case of four-year colleges 41.4% of public high school graduates continued in 1970, 39.1% continued in 1971 and 37.7% continued in 1972. The projection assumes that this will level off at 37.0%. In the case of the two-year colleges the percent of public high school graduates continuing dropped from 19.4% in 1971 to 14.1% in 1972. The study assumes that this percent will increase slowly to 16% in 1980, a level far below the 19.4% achieved in 1971.

Column 3. This is the product of Columns 1 x 2.

Column 4. This is the sum of the figures in Column 3.

Column 5. The preceding column includes only high school students who graduated in June of the current year. This column estimates the number of graduates from earlier classes who start their college education for the first time. Notice on the two-year work sheet that the number of earlier high school graduates increases rapidly so that by 1980 earlier high school graduates are more than 40% of current high school graduates.

Column 6. This is the sum of Columns 4 and 5.

Column 7. Column 7, retention factor, extends the number of freshmen shown in Column 6 to an estimate of total number of full-time undergraduates. It is a measure of attrition. For example, the 3.2 factor

used on the four-year work sheet is arrived at in the following way. One hundred percent of the freshmen are included, the number of sophomores is estimated at 85% of the freshmen, the number of juniors at 70% of the freshmen and the number of seniors at 65% of the freshmen. Adding 1.00, .85, .70, .65 we obtain 3.20. This figure is based on enrollment data, including that for first-time students, received from the colleges. The fact that it decreases is a measure assumption of the projection method.

Column 8. This is a product of Columns 6 and 7.

Columns 9 and 10. These columns estimate the number of veterans and number of transfer students in the undergraduate enrollment. The number of veterans is obtained from the Veterans Administration office. The total number of transfers in the state is an estimate made from surveys conducted by the colleges.

Column 11. This is the sum of Columns 8, 9 and 10.

Column 12. The excess of the number of Connecticut students who leave the state for college education over the number of out-of-state students who come to Connecticut for higher education is called the net out-migration. The last good measure of this was obtained in 1968; the figures in Column 12 are estimates of out-migration.

Column 13. Column 13 is the difference between Columns 11 and 12. The numbers are the enrollment projections contained in Table 4 in Section IV of the Master Plan.

SUMMARY OF PROJECTION RESULTS

1. Starting with the actual enrollment for fall 1972, the study projects an increase in full-time undergraduate students of 9.7% through fall 1978 for Connecticut's four-year colleges and universities. Over the same period 1972 to 1978, the study projects a 21.2% increase in full-time undergraduate students in the two-year colleges.

2. The percent increase in total full-time undergraduates from the period 1972-1978 is 11.9%. This compares with an estimated 18% increase in the 18-21-year-old population during the same period. It is regarded as a conservative estimate when the increase in college-age youth is considered.

3. The study projects a 20% increase over the period 1972-1978 in total enrollment, that is undergraduate, graduate, full-time, part-time and unclassified. This higher rate of increase is attributed to

the increasing trend of students to engage in part-time college study. The increase also anticipates the implementation of alternate methods of attaining college degrees, an increase in the number of minority group students and the extension of community services. Estimated enrollments for these new programs have been included in the estimates of the total number of part-time students who will be attending Connecticut's colleges and universities.

An advantage of the method used in this study is that additional and more accurate data can be used immediately to revise and update the projections. These projections estimate the student population which will be seeking higher education during the five-year period covered by the Master Plan, from fall 1974 through fall 1979. The convenience and adaptability of the formula to annual updating makes the method a practical one for planning purposes.

WORKSHEET FOR EXHIBIT 13

TWO-YEAR FULL-TIME UNDERGRADUATE DEMAND
MODEL VS 1970, 1971, 1972
PROJECTIONS FOR 1973-1980

Fall of Year	(1) No. of H.S. Graduates Pub/Priv.	(2) Percent Continuing to 2 Yr. Colleges	(3) (1) x (2)	(4) Freshman Demand	(5) Plus: Earlier H.S. Grad.	(6) Total Freshman 2 Yr. Demand	(7) Retention Factor	(8) (6) x (7)	(9) Plus Veterans	(10) Plus Transfers	(11) Total Demand 2 Yr. Full-Time	(12) Less Net Out Migration	(13) Net Demand 2 Yr. Full-Time	(14) Actual Enrollment
1970	35,815 6,273	18.9 14.3	6,769 897	7,666	1,250	8,916	1.3	11,590	1,800	1,800	15,190	1,000	14,190	14,014
1971	36,248 6,491	19.4 15.7	7,032 1,019	8,051	1,300	9,351	1.3	12,156	2,200	1,900	16,256	1,000	15,256	15,086
1972	37,873 6,583	14.1 13.2	5,340 868	6,208	1,500	7,708	1.3	10,020	2,600	2,400	15,020	900	14,120	14,185
1973	39,578 6,966	14.2 13.0	5,620 905	6,525	1,800	8,325	1.3	10,822	2,600	2,500	15,922	800	15,122	
1974	40,195 7,074	15.0 13.0	6,029 919	6,948	2,100	9,048	1.3	11,762	2,500	2,600	16,862	800	16,062	
1975	42,776 7,529	15.0 13.0	6,416 978	7,394	2,500	9,894	1.2	11,872	2,300	2,600	16,772	700	16,072	
1976	43,255 7,613	15.5 13.2	6,704 1,004	7,708	2,900	10,608	1.2	12,729	2,000	2,600	17,329	700	16,629	
1977	44,042 7,751	15.5 13.2	6,826 1,023	7,849	3,100	10,949	1.2	13,138	1,600	2,600	17,338	700	16,638	
1978	44,530 7,837	16.0 13.4	7,124 1,050	8,174	3,400	11,574	1.2	13,888	1,400	2,600	17,888	700	17,188	
1979	45,016 7,923	16.0 13.4	7,202 1,061	8,263	3,500	11,763	1.2	14,115	1,200	2,600	17,915	700	17,215	
1980	44,139 7,768	16.0 13.4	7,062 1,040	8,102	3,600	11,702	1.2	14,042	1,100	2,600	17,742	700	17,042	

FOUR-YEAR FULL-TIME UNDERGRADUATE DEMAND
MODEL VS 1970, 1971, 1972
PROJECTIONS FOR 1973-1980

Fall of Year	(1) No. of H.S. Graduates Pub/Priv.	(2) Percent Continuing to 4 Yr. Colleges	(3) (1) x (2)	(4) Freshman Demand	(5) Plus: Earlier H.S. Grad.	(6) Total Freshman 4 Yr. Demand	(7) Retention Factor	(8) (6) x (7)	(9) Plus Veterans	(10) Plus Transfers	(11) Total Demand 4 Yr. Full-Time	(12) Less Net Out Migration	(13) Net Demand 4 Yr. Full Time	(14) Actual Enrollment
1970	35,815 6,273	41.4 67.3	14,827 4,221	19,048	950	19,998	3.40	67,993	5,000	2,395	75,388	14,000	61,388	59,836
1971	36,248 6,491	39.1 66.9	14,172 4,342	18,514	930	19,444	3.40	66,109	5,500	2,720	74,329	14,000	60,329	61,396
1972	37,873 6,583	37.7 67.0	14,278 4,410	18,688	940	19,628	3.30	64,772	6,000	3,230	74,002	14,000	60,002	61,270
1973	39,578 6,966	37.7 67.0	14,920 4,667	19,587	980	20,567	3.25	66,842	6,000	3,440	76,282	14,000	62,282	
1974	40,195 7,074	37.7 67.0	15,153 4,739	19,892	990	20,882	3.25	67,866	6,000	3,900	77,766	14,000	63,766	
1975	42,776 7,529	37.5 67.0	16,041 5,044	21,085	1,000	22,085	3.20	70,672	5,000	3,900	79,572	14,000	65,572	
1976	43,255 7,613	37.0 67.0	16,004 5,100	21,104	1,060	22,164	3.20	70,924	4,500	4,000	79,424	14,000	65,424	
1977	44,042 7,751	37.0 67.0	16,295 5,193	21,488	1,060	22,548	3.20	72,153	4,000	4,100	80,253	14,000	66,253	
1978	44,530 7,837	37.0 67.0	16,476 5,250	21,726	1,070	22,796	3.20	72,947	3,500	4,300	80,747	13,500	67,247	
1979	45,016 7,923	37.0 67.0	16,655 5,308	21,963	1,100	23,063	3.20	73,801	3,000	4,400	81,201	13,500	67,701	
1980	44,139 7,768	37.0 67.0	16,331 5,204	21,535	1,200	22,735	3.20	72,752	2,500	4,500	79,752	13,500	66,252	

EXHIBIT 14

CONNECTICUT SYSTEM OF HIGHER EDUCATION
PLUS ADVISORY AND SOME COMMITTEES RELATED TO
THE COMMISSION FOR HIGHER EDUCATION

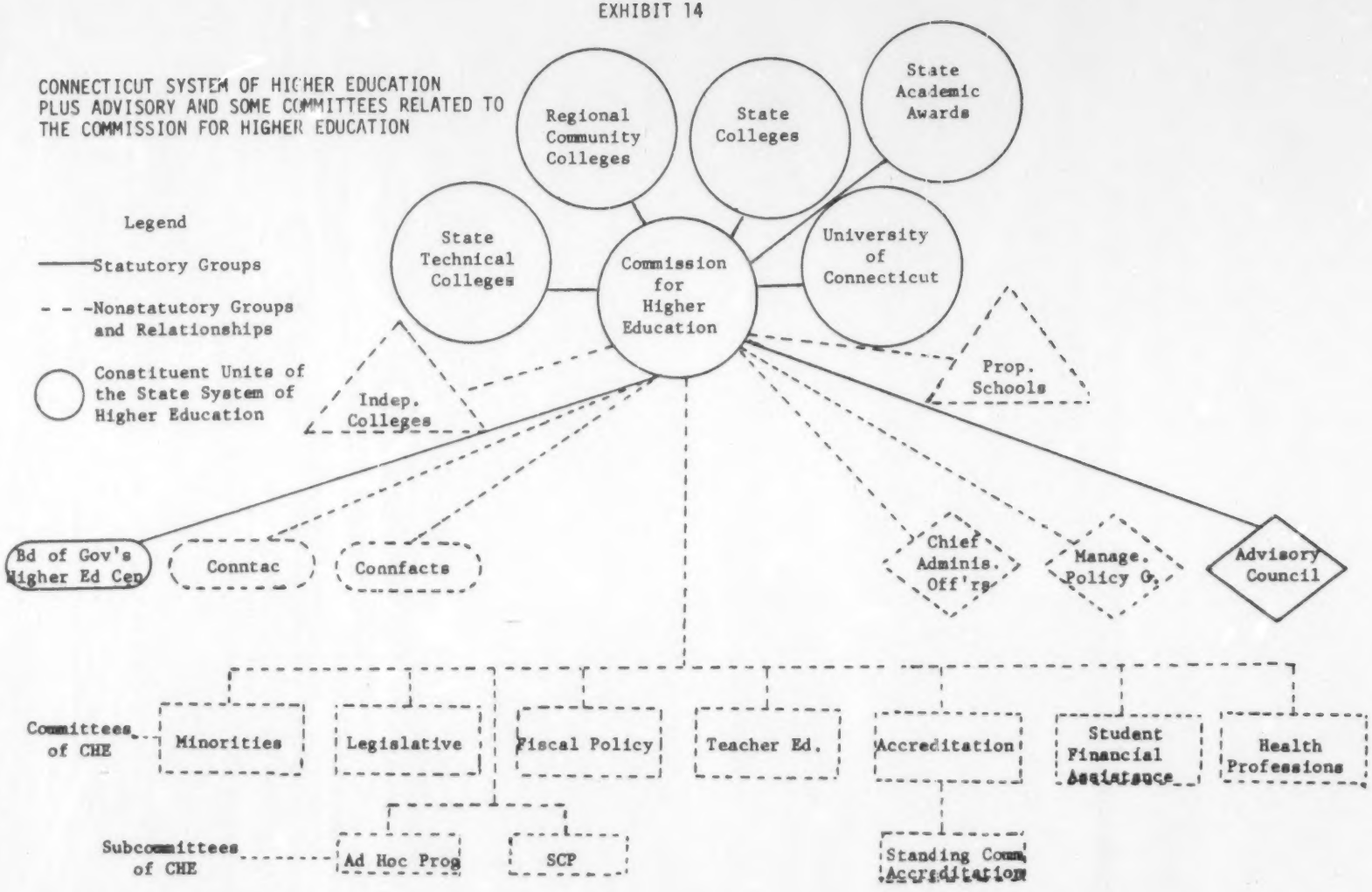


EXHIBIT 15

CONNECTICUT COMMISSION FOR HIGHER EDUCATION

CHRONOLOGY OF MASTER PLAN

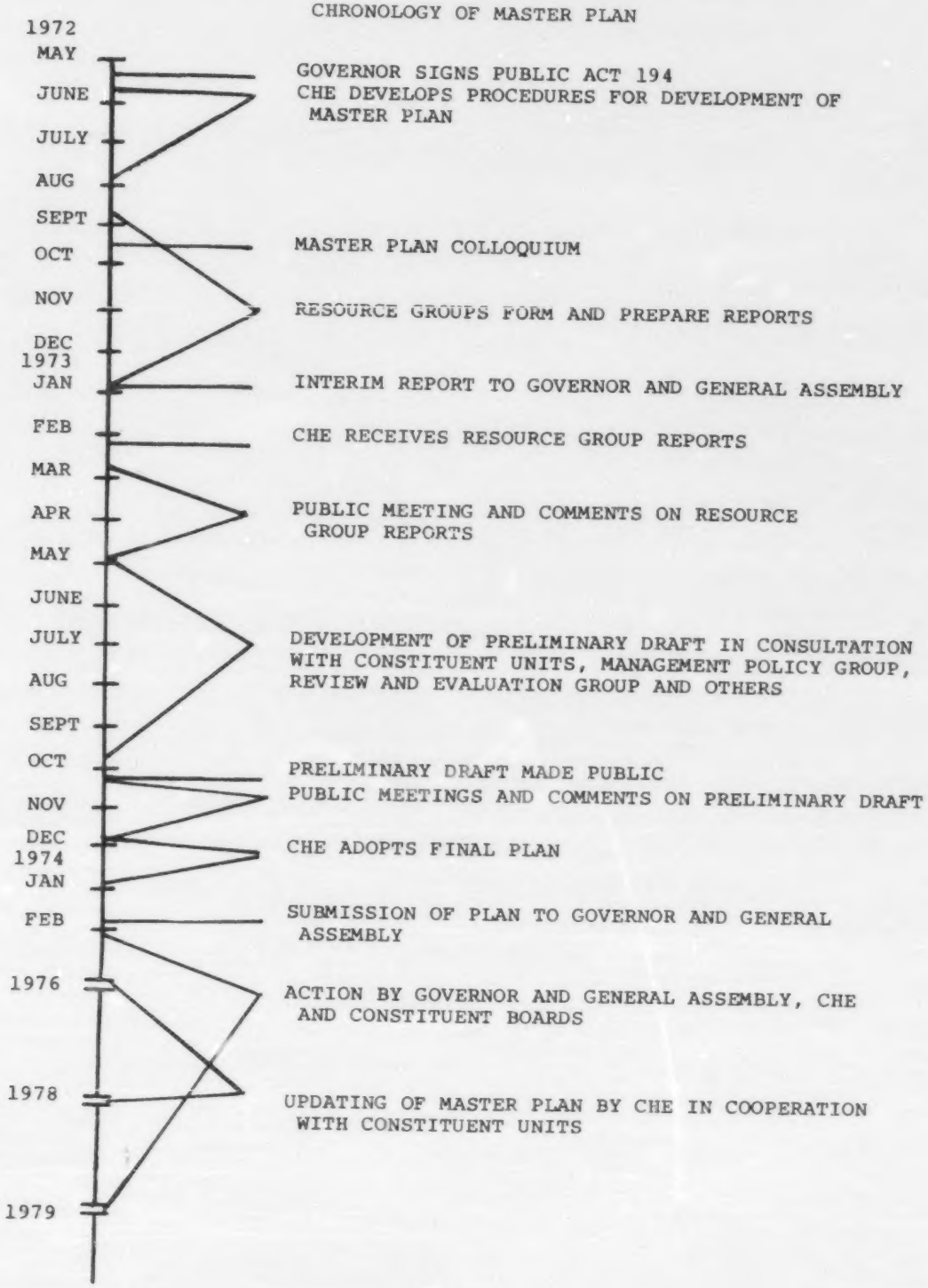
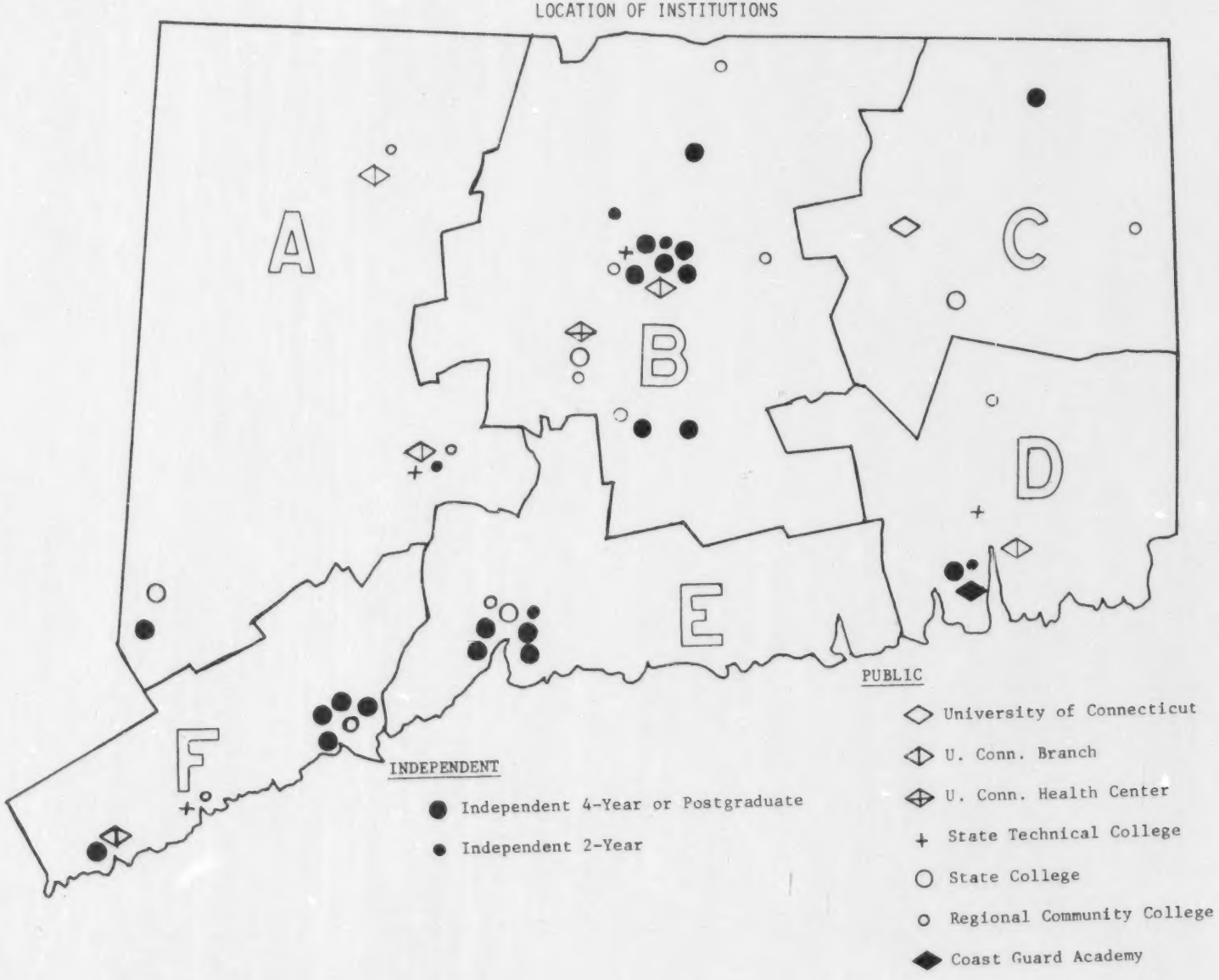


EXHIBIT 16

LOCATION OF INSTITUTIONS



	REGION A	REGION B	REGION C	REGION D	REGION E	REGION F
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State Colleges	Western Conn.	Central Conn.	Eastern Conn.		Southern Conn.	
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Regional Community Colleges	Northwestern Mattatuck	Greater Hartford Manchester Middlesex Asnuntuck Tunxis	Quinebaug Valley	Mohegan	South Central	Housatonic Norwalk
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	10	19	1	7	11	12

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